THE

Lumleian Lectures

ON

THE DIGESTIVE FERMENTS, AND THE PREPARATION AND USE OF ARTIFICIALLY DIGESTED FOOD.

Delivered before the Royal College of Physicians,

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LECTURE I.—PART I.

DIGESTION has been usually regarded as the special attribute of animals. They receive into their alimentary canal the food which they require for their sustenance in a crude form. It is there subjected to the action of certain ferments which transmute its elements, by a peculiar chemical process, into new forms which are fitted for absorption. Looked at in this restricted sense, plants have no digestive function. They possess no alimentary canal nor any vestige of a digestive apparatus. But when the matter is examined more profoundly it is seen that plants digest as well as animals, and that the process in both kingdoms of nature is fundamentally the same.

In order to understand this generalization—which was first propounded by Claude Bernard, and constitutes one of the most important fruits of his splendid labours[1]—it is necessary to recognise digestion under two types or conditions—namely, a digestion which takes place exteriorly at the surface of the organism, and a digestion which takes place interstitially in the interior of the organs and tissues.

Exterior digestion is that common process with which we are familiar as taking place in the alimentary canal of animals, by which the crude food introduced from without is prepared for absorption.

Interstitial digestion, on the other hand, is that more recondite process by which the reserves of food lodged in the interior of plants and animals are modified and made available for the purposes of nutrition.

These two types of digestion are essentially alike, both as regards the agents and the processes by which they are carried out; and although one type of digestion is more developed in the animal kingdom and the other type more developed in the vegetable kingdom, both types are represented in the two kingdoms, and bear witness to the fundamental unity of the nutritive operations in plants and animals.

I shall only be able to indicate in outline the facts and arguments on which Bernard sought to establish these propositions.

Exterior Digestion.

We all know that the alimentary canal is simply a prolongation of the external surface; that the skin is continued, at either extremity, without a break, into the alimentary mucous membrane. Accordingly the processes which take place in the digestive tube are, strictly speaking, as much outside the body as if they took place on the surface of the skin. Upon this inner surface, if I may so call it, are poured out the digestive juices, charged with the ferments which are the special agents of the digestive processes. This is the common condition of exterior digestion as it occurs in animals, but it is not the only condition. Among some of the lowest members of the animal series a permanent alimentary canal does not exist. In the amœba any portion of the exterior is adapted for the reception of food. The morsel sinks into a depression formed on the surface at the point of impact; it is digested in this improvised stomach, and the indigestible portions are expelled through an improvised anus.

Among plants exterior digestion is a much less prominent feature than among animals, but examples of its occurrence and evidence of its importance are not difficult to point out. In the lowest orders of plants-fungi and saprophytes, which are devoid of chlorophyll, exterior digestion is probably a function of prime necessity. In all likelihood their carbon-containing food is only absorbed after undergoing a process of true digestion. The transformation of cane-sugar by the yeast-plant is a striking example, though a distorted one, of exterior digestion. Cane-sugar is a crude form of food both to plants and animals, and requires to be transformed into invert-sugar (a mixture of equal parts of dextrose or grape-sugar and lævulose or fruit-sugar) before it can be made available for nutrition. The yeast-plant is no exception to this rule, and when placed in a solution of cane-sugar it is under the necessity of transforming that compound into invert-sugar before it can use it for its profit in fermentation. This transformation is effected by a soluble ferment attached to the yeast-cell, which can be dissolved from it by water. We shall see later on that a similar ferment exists for a similar purpose in the small intestine of animals, having the same property of changing cane-sugar into invert-sugar.

Even among the higher plants exterior digestion is not quite unknown. The function may be said to be foreshadowed in the excretion of an acid fluid by the rootlets of some plants which serves to dissolve and render absorbable the mineral matters in their vicinity. But genuine and most remarkable examples of this type of digestion occur among the so-called insectivorous plants, of which Mr. Darwin has given so interesting an account. In the sundews, the plant, by a peculiar mechanism provided on its foliage, seizes the insects which fortuitously alight on its leaves. A stomach is extemporised around the prey, into which is poured out a digestive fluid. The prey is digested, and the products absorbed, in essentially the same manner as in the gastric digestion of animals.

Interstitial Digestion.

Both animals and plants lay up reserves, or stores, of food in various parts of their tissues for contingent use, so that if you suddenly withdraw from them their food-supplies neither animal nor plant immediately dies—it lives for a certain time on its reserves. But before these reserves can be made available for the operations of nutrition they must first be converted from their inert and mostly insoluble state into a state of solution and adaptability to circulate in the nutritive fluid which constitutes the alimentary atmosphere of the protoplasmic elements. This conversion of inert store-food into available nutriment is brought about certainly in some, presumably in all cases, by the same agents and processes as the digestion which takes place in the alimentary canal of animals; and it is this identity in the agents and the processes which Bernard insisted on as the proof of the fundamental identity of the two kinds of digestion.

The storing up of food is carried on to a larger extent in the vegetable than in the animal kingdom, owing to the intermittent life of most plants. In their seeds, tubers, bulbs, and other receptacles are laid up stores of albumen, starch, cane-sugar and oil—designed primarily for the growth and nutrition of the plant or its offspring—but which are largely seized on by animals and utilised for their food. Owing to their more continuous life animals store up food less than plants. Nevertheless, they accumulate stores of fat in various parts of their body—of animal starch (glycogen) in their livers and elsewhere—and of albumen in their blood. Birds also store up large quantities of albumen and fat in their eggs.

The transformation of store food has been followed out most completely in regard to starch, its congener glycogen, and cane-sugar. Bernard worked out this subject with marvellous minuteness and success. It has long been known that the transformation of starch into sugar in germinating seeds was effected by diastase; and that a similar ferment, existing in saliva and pancreatic juice, performed the same office on the starchy food of animals. It has also been proved that the stores of starch laid up in the tuber of the potato and in various parts of other plants are changed at the periods of budding and growth in the same way and by the same agent. Bernard showed that animal starch or glycogen is stored up largely not only in the liver but in a variety of other situations, and especially that it is widely distributed and invariably present in large quantities in embryonic conditions. In juxtaposition with the glycogen is found a diastatic ferment which transforms it into grape-sugar, as it is required for the active operations of growth and nutrition.

The stores of cane-sugar which exist in the beet-root and

[1] Claude Bernard: Leçons sur les Phénomènes de la Vie. Tom. II. Edited after his death by Dastre. Paris, 1879.

in the sugar-cane are transformed or digested in like manner into invert-sugar when the plants enter on the second phase of their life—the phase of inflorescence and fructification. Here, again, it has been proved that the converting agent is a soluble ferment—the same ferment which, as already mentioned, is attached to the yeast-cell—and the same ferment which exists in the small intestine of animals for a similar purpose.

The transformation of store proteids and fats has not been followed out with the same success as that of starch and cane-sugar. But the evidence, as far as it goes, and analogy point to the conclusion that the stores of albuminous and oily matters contained in the seeds, bulbs, and other receptacles of vegetables are subjected to a digestive process before they are made available for the nutritive operations of the plants, and that the changes thus effected are of the same nature and are accomplished by the same agents as those which take place in the digestion of proteids and fats in the alimentary canals of animals.

I have, I think, said enough to show the scope of the evidence and the analogies from which Bernard deduced certain far-reaching generalisations, which I have ventured to summarise in my own language in the following propositions:—

(1) Digestion, or the process by which crude food is changed into available nutriment, is a function of capital importance in every form of active life. (2) This function is exercised partly on food brought into proximity with the surface of the organism (exterior, chiefly intestinal digestion) and partly on reserves of food laid up in the interior of the organism (interstitial digestion). (3) The agents concerned in this function and their mode of action are essentially the same whether the organism be a plant or an animal—and whether the action takes place in the interior of the tissues,—or on the general or intestinal surfaces.

General Characters and Properties of the Digestive Ferments.

The essential work of digestion is carried out by a remarkable group of agents, called soluble or unorganised ferments. These are found dissolved in the several digestive juices or secretions, which are thrown out on the path of the food as it travels along the alimentary canal. The physical and mechanical processes to which food is subjected in the mouth and stomach are all purely introductory, or preparatory, and are solely intended to facilitate the essential work of digestion, which consists in the action of the digestive ferments on the alimentary principles.

The number of distinct ferments employed in the digestion of the miscellaneous food used by man is not accurately known, but there are at least seven or eight of them. The accompanying table presents in one view a scheme of the several digestive secretions or juices—and the ferments which they contain—together with an indication of the action of each ferment on the several alimentary principles.

Table of the Digestive Juices and their Ferments.

Digestive Juices.	Ferments contained in them.	Action on Food Materials.
Saliva	Salivary diastase or ptyalin	Changes starch into sugar and dextrine.
Gastric juice ..	a. Pepsin	Changes proteids into peptones in an acid medium.
	b. Curdling ferment	Curdles the casein of milk.
Pancreatic juice..	a. Trypsin	Changes proteids into peptones in alkaline and neutral media.
	b. Curdling ferment	Curdles the casein of milk.
	c. Pancreat. diastase	Changes starch into sugar and dextrine.
	d. Emulsive ferment	Emulsifies and partially saponifies fats.
Bile	†	Assists in emulsifying fats.
Intestinal juice ..	a. Invertin	Changes cane-sugar into invert-sugar.
	b. †Curdling ferment	Curdles the casein of milk.

An examination of the table shows that a long and complicated series of ferment-actions is required to accomplish the digestion of our food. Starch is attacked at two points—in the mouth and in the duodenum—by two ferments, salivary and pancreatic diastase, which are substantially identical. Albuminous matters are also attacked at two points—in the stomach and in the small intestine; but here the two ferments, pepsin and trypsin, are certainly not identical. The ferment, of which the only known characteristic is to curdle milk, is found in the stomach and in the pancreas—and I think also in the small intestine. The bile is not known to possess any true ferment-action, but it assists, by its alkalescent reaction and by its physical properties, in emulsifying and promoting the absorption of fatty matters. The ferment which transforms cane-sugar, strange to say, is not encountered until the food reaches the small intestine.

The known digestive ferments all belong to the class of soluble or unorganised ferments. They are sharply distinguished from the insoluble or organised ferments, of which the type is yeast, in not having the power of self-nutrition and self-multiplication. All living organisms possess this power either in a dormant (potential) or in an active (kinetic) state. Soluble ferments cannot therefore be said to be alive—but they are exclusively associated with living organisms and take an essential part in their vital operations.

The digestive ferments are all the direct products of living cells, and may be regarded as detached repositories of cell-force. They are quite unknown in the domain of ordinary chemistry. Their mode of action bears no resemblance to that of ordinary chemical affinity, and has a distinctively physiological character. They do not derive their marvellous endowments from their material substance. They give nothing material to, and take nothing material from, the substance acted on. The albuminoid matter which constitutes their mass is evidently no more than the material substratum of a special kind of energy—just as the steel of a magnet is the material substratum of the magnetic energy—but is not itself that energy. This albuminoid matter of the ferment may be said to become charged, at the moment of elaboration by the gland-cells, with potential energy of a special kind—in the same way that a piece of steel becomes charged with magnetism by contact with a pre-existing magnet. The potential energy of the ferment is changed into the active form (i.e. becomes kinetic) when it is brought into contact with the alimentary substance on which it is designed to act.

The chemical and physical characters of the digestive ferments appear to be tolerably uniform. In composition they resemble proteid substances, and contain carbon, oxygen, hydrogen, and nitrogen in the same or somewhat similar centesimal proportions as albumen. But as not one of them has yet been obtained in a state of absolute isolation and purity, this is, strictly speaking, a matter of inference rather than an ascertained fact. They are all soluble in water; they are all diffusible, though with difficulty, through animal membranes and parchment paper. They are also capable (all those I have tried) of passing through porous earthenware by filtration under pressure; but some of them pass through readily, and others with the utmost difficulty and only in the smallest proportions. They are precipitated from their watery solutions by absolute alcohol; but, unlike other proteids (peptones excepted), they are not truly coagulated by alcohol. When the alcohol is removed, the ferments are still found to be soluble in water and to retain their activity unimpaired. They are coagulated and rendered permanently inert by the heat of boiling water; and when in solution they are coagulated and destroyed by a heat of about 160° Fahr. (71° C.)

Each digestive ferment has its special correlative alimentary principle, or group of principles, on which alone it is capable of acting. Diastase acts exclusively on amylaceous substances. Pepsin and trypsin act only on the azotised principles; the emulsive ferment of the pancreas is only capable of acting on fatty bodies; the inversive ferment of the small intestine has no activity except on cane-sugar.

The changes impressed on alimentary principles by the digestive ferments are not, chemically speaking, of a profound character; and they affect much more the physical state of these principles than their chemical composition. In the main they are processes of deduplication and hydration; and the result is to render the substances operated on more soluble and more diffusible—to diminish their colloidal state, and to make them approach, or even to reach, the crystalloid state. This does not appear to be an invariable event, however. Cane-sugar is a marked exception—it is converted in the small intestine into invert-sugar (a mixture of equal parts of grape-sugar or dextrose and fruit-sugar or lævulose); but invert-sugar, though more highly hydrated than cane-sugar, is neither more diffusible nor more soluble.

It does not appear to be absolutely true that all food

requires digestion before it can be absorbed. Fat is largely taken up by the lacteals in its unaltered state, except in so far that it is finely divided or emulsified. Grape-sugar (dextrose) is not known to suffer any digestive operation, but to be absorbed unchanged. Perhaps it would be more correct to say that grape-sugar is an article of food predigested for us by the agency of plants.

Although the mode of action of digestive ferments is special and peculiar, the results of that action are not peculiar, but can be obtained in other ways by ordinary chemical forces. By long-continued boiling in water—and more rapidly by boiling with acidulated water—starch is converted into dextrine and sugar, and albumen is changed into a substance resembling peptone. The peculiarity of the action of ferments consists in this: that the ferments are able swiftly and without violence to produce changes which by ordinary chemical agencies can only be produced either by strong reagents, or by long-continued and very slow action of weaker reagents. It is interesting to remark that the changes produced in food by digestion are, in their ultimate results, very similar to, if not identical with, those produced by protracted cooking.

The Preparation of Artificial Digestive Juices.

The study of the digestive ferments has been immensely facilitated by a method first introduced by Eberle. Eberle discovered that an aqueous infusion or extract of the digestive glands possessed the same properties as the natural secretions or juices of those glands. The reason of this is that the glands which secrete the digestive juices contain within them a reserve stock of their respective ferments. Accordingly when the glands are infused in water their reserve stock of ferments passes into solution. These infusions or extracts then constitute artificial digestive juices which operate in a flask or beaker in the same way as the corresponding glandular secretions act in the alimentary canal. Solutions of organic matters are, however, extremely perishable—they pass quickly into putrefaction. In order to obviate this inconvenience, and to obtain an extract which is always handy for use, various preservative means have been employed. Bernard used carbolic acid—others have used glycerine or common salt. These preservatives, although perfect for the purpose intended, have a pronounced taste which is impossible to get rid of. I have made a good number of experiments on this point. As the ultimate object I had in view was to obtain a solution which could be administered as a medicine by the mouth—or which could be employed in the preparation of artificially-digested food—I sought for a preservative which either had little taste and smell, or one which was volatile and could be got rid of by vaporization. After a good many trials I adopted the three following solutions as on the whole the best suited for the purpose.

1. *Boracic Solution.*

This solution contains 3 or 4 per cent. of a mixture of two parts of boracic acid and one part of borax. An extract of the stomach or of the pancreas made with this solution keeps perfectly, and has little taste and no smell. For experimental purposes, this extract is, I believe, all that can be desired—it is neutral in reaction and is chemically inert. It answers well also for administration by the mouth when the dose does not exceed one or two teaspoonfuls. But when larger quantities are required for the preparation of artificially-digested food, and when food thus prepared has to be used day after day in quantity sufficient to sustain nutrition, larger quantities of boracic acid and borax are taken into the stomach than that organ can always comfortably tolerate.

2. *Dilute Spirit.*

The second solution is water mixed with 12 or 15 per cent. of rectified spirit. This solution makes a most excellent extracting medium, and the quantity of spirit in it is so small as rarely to be an objection to its use. In the preparation of artificially-digested food a final boiling is usually requisite, and in this final boiling the alcohol is dissipated. On the whole, this is perhaps the most generally useful of the three solutions.

3. *Chloroform Water.*

Chloroform dissolves in water in the proportion of about 1 in 200; these are the proportions employed in the preparation of the *Aqua Chloroformi* of the British Pharmacopœia. This forms a perfect solvent for the digestive ferments, and its keeping qualities are unrivalled. But though the quantity of chloroform dissolved is so minute (about two and a half drops in a fluid ounce), it communicates a somewhat powerful smell and taste to the solution. This taste and smell are agreeable to most persons, but not to all. It is, however, quite easy to get rid of the chloroform. If the dose to be used be first poured into a wineglass or saucer and left exposed to the air for three or four hours, the chloroform passes off almost entirely in vapour, and leaves behind a simple aqueous solution of the ferments. Or if the solution is employed for the preparation of artificially-digested food, the chloroform, being very volatile, disappears in the final boiling. It is perhaps well to mention that chloroform water has the property of reducing Fehling's solution, and that this property has to be taken into account in making experiments on digestion which involve testing for sugar.

Alimentary substances fall naturally into three well-marked groups—namely, *Carbohydrates*, *Proteids*, and *Fats*. I propose to consider the digestion of the three groups in the order here indicated. I have, however, no intention of dealing systematically with these subjects, but rather to take up certain points and questions in regard to which I have myself made observations, or which have a bearing on the preparation of artificially-digested food and its administration to patients. I shall treat the digestive transformation of starch in some detail, because this has been worked out almost to completeness, and because it probably furnishes a type which will hereafter be of service as a guide to the study of the more complex problem of the digestion of proteids.

THE

Gulstonian Lectures

ON

EPILEPSY.

Delivered before the Royal College of Physicians,

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LECTURE III.—PART II.

THE last question is, What is the nature of the tissue change? Can we form any opinion as to the character of the alteration in the grey matter which permits its sudden, explosive discharge? This problem is essentially the same, whatever theory of epilepsy is adopted. The violent muscular contractions suggest a corresponding overaction of the nerve cells, and it has seemed to some, as Dr. Hughlings Jackson, that such repeated overaction can hardly be other than an indication of increased functional activity—of increased, if abnormal, nutrition. On the other hand, others, and foremost among them is Dr. Radcliffe, have maintained that the general conditions of epileptics and the phenomena of epilepsy suggest impairment of functional power, and that a symptom so abnormal as an epileptic fit can hardly result from normal nutrition, to whatever excess it may be carried.

Modern physiology teaches us, I think, in what direction an answer is to be sought. It is necessary, in the first place, to avoid too direct an inference from the outward manifestation to the internal process. No one probably now imagines that the nerve-force, which sets a muscle into action, forms part of the force liberated by the muscle; and, although the two are no doubt proportioned, the difference between them may be as great as between the energy liberated by an electrical spark and by a charge of gunpowder which it fires. We may easily overrate the amount of nerve-force needed to cause violent muscular action, and may also overrate the relation which the nerve-force bears to the potential energy of the cells concerned.

Every nerve-cell may be described as a storehouse of latent energy, and may be compared by analogy to a charged

Leyden jar, or, what is more convenient for our present purpose, to a bent spring. The energy of the spring is due to the force which has bent it, and depends on the resistance which keeps it bent. The recognition of the resistance to action in nerve-cells, and of the part which it plays in normal processes, is a most important step in modern physiological thought. Of the nature of the resistance we can form perhaps no idea, but its existence in nerve-cells may be taken as hardly needing proof, for we are unable to conceive of their action without it, and the idea has underlain such expressions as "nerve tension," and the like, which have been long employed. The fact is probably only the highest instance of a series of relations which runs through the whole of organic nature. The formation of every organic compound, for instance, consists in, so to speak, the bending back of the spring of chemical affinity in a process by which force is held latent by some unknown resistance.

The application of this mode of thought to the morbid action of the nervous system promises to yield clearer views of many problems of disease, and for this step we are chiefly indebted to some important and suggestive papers by Dr. Ringer. The state of a nerve-cell, whether at rest or action, may be regarded as depending on the proportion which its tendency to liberate energy bears to the resistance within it. The action of a nerve-cell may depend on the production of force within it being increased, in excess of the resistance, or on the resistance being unduly lessened. The cessation of its action may depend on the tendency to liberate energy being diminished, or on the resistance being increased. It is highly probable that all the phenomena of "inhibition" depend on increase of resistance by the action of one cell upon another. It is, indeed, conceivable that the interaction of the nerve-cells of the brain may be such that their mutual influence is a balanced resistance, and the amount of force in the brain, nascent but restrained, may be infinitely greater than any manifestations of energy which we perceive could possibly suggest. We may, perhaps, ultimately learn to regard the effect of stimuli in developing nerve-action, not after the analogy of the mechanism of a piano, each blow upon a key directly exciting the sound, but rather after that of an organ, in which the movement of a key merely lessens the resistance to the action of a pent-up force.

Do not, I would ask, the phenomena of epilepsy best accord with the theory that the unstable equilibrium of grey matter depends on instability of resistance rather than on any primary change in the energy-producing action of the cells? When loss of blood develops general convulsions, by its action on an otherwise healthy nerve-centre, can we conceive, I would ask, as Dr. Radcliffe has asked before, that it acts by increasing the production of nerve-force? It appears far more intelligible to regard its effect as a sudden diminution of resistance, by which the pent-up nerve-force is suddenly released, the nascent energy developed. The arrest by the ligature of fits which begin deliberately seems to point in the same direction. A strong peripheral impression causes such a change in the grey matter to which the discharge is advancing, that the discharge is arrested there, and passes no further. We can hardly conceive the effect of the impression except as causing a local increase of resistance, so that the liberation of energy ceases at the spot, can no longer occur. Once arrested in this way it is arrested for a considerable time. If the discharge depended on a primary increase in the energy-producing action of the cells, we should expect it to recur when the ligature was removed. It does not. I have a patient who has, for a long time, arrested every fit, commencing in the hand, by a ligature above the elbow. At first, if he did not apply the ligature, the attack went on into a general convulsion. He now finds that the sensation, beginning as before, stops, of its own accord, at the spot at which the ligature used to be applied, and never goes on to a fit. According to the view I have suggested, the repeated increase of resistance has led to a corresponding permanent change, resting on an alteration of nutrition, so that the unstable grey matter is limited by a zone of greater stability, where the discharge is arrested.[1]

Analogy suggests that the internal resistance to action is a higher function of the nerve-cells than the mere transformation of energy. The control is a higher function than the production of the force. Hence the fact that there is an apparent overaction becomes consistent with the theory that there is imperfect nutrition.

The discussion of the real nature of these influences—the liberation of energy, and the resistance to action—how far they are ultimately to be referred to vital, chemical, or electrical changes, is beyond the scope of these lectures. The recognition of one point only appears to me essential—that nutritive changes may underlie them, and that from them nutritive changes may result.

Two other points in pathology remain for mention. I have suggested that failure in resistance, permitting the liberation of energy, constitutes the essential element in discharge, and that such discharge causes the symptoms of the epileptic paroxysm. Physiological considerations make it probable that the resistance in cells may be raised and lowered by the action of cells at a distance. There are a few phenomena of minor attacks of epilepsy which seem best explicable by assuming that the resistance in a centre is suddenly raised (perhaps by the action of other cells) instead of being lowered. A patient, for instance, whose severe fits affect one side only, may have slight attacks which consist only of sudden transient weakness in the side. We have seen that while visual sensations, due hypothetically to discharges in the visual centres, are frequent warnings, sudden inability to see may also be part of an aura, and such inability to see must be regarded as a sudden inhibition of the visual centre, that is, a sudden increase of resistance within it. A slight increase of resistance affords the best explanation of the apparent diminution in the size of objects. The increase of resistance is equivalent to a diminution in the sensitiveness of the centre, and the effect upon it of the stimulation of a given area of the retina is less than normal, and corresponds to the effect of a similar stimulation of a smaller retinal area. The object appears smaller and farther off, and as the resistance in the centre increases, the object may appear to recede. It is the opposite process to that which occurs in lessened resistance in the centre. This commonly results in such liberation of energy as affects consciousness. There is a visual impression, perhaps a sense of a ball of fire; and as the discharge spreads this seems to get larger and larger. The effect is the same as if an increasingly large area of the retina were stimulated. There is one centre which is usually inhibited, rather than discharged, in epilepsy—the centre for the motor processes of speech.

The phenomena of hystero-epilepsy seem to point to an instability of grey matter of different seat and perhaps different kind. The excessive violence of the muscular spasm in that disease is comparable only to the convulsions of epilepsy and tetanus. The phenomena appear due to the more deliberate and sustained overaction of centres which are concerned in specialised, co-ordinated movements, in emotions, and also in intellectual processes. The fact that some patients in these attacks fall suddenly, and remain still for a few moments before the co-ordinated movements commence, has been regarded by Dr. Hughlings Jackson (adopting a theory of the late Dr. Dickson) as evidence that the "co-ordinated" phenomena are always due to the release of lower centres from the control of the higher by the temporary discharge of the latter. He has urged that an actual discharge of grey matter can only give rise to inco-ordinate "brutal" effects. That co-ordinated convulsive action may succeed attacks of true epilepsy is beyond all question; but it is also, I think, beyond question that the co-ordinated phenomena are not always preceded by epileptic symptoms. In some cases which I have watched the attacks commenced with the co-ordinated movements which characterised them throughout. The tonic rigidity, which initiates the attacks in other cases, cannot be regarded as a true epileptic symptom; it is rather part of the hystero-epileptic attack, and may recur during its course. Thus I think that there is in many cases no evidence of true epileptic symptoms, that the co-ordinated convulsion, which constitutes the chief symptom of the hystero-epileptic attack, may exist alone.

Even for the cases in which this symptom succeeds a true epileptic seizure, it may be doubted whether the hypothesis of "loss of control" affords an entirely adequate explanation. We can discern no difference between epileptiform attacks which are, and those which are not, followed by such symptoms. This suggests that this occurrence depends

[1] That variations in tissue-resistance may influence the *spread* of a discharge which has already commenced has been recognised by Dr. Hughlings Jackson. (Brit. Med. Jour., Jan. 11th, 1879.)

upon some other condition, a condition pertaining to the nervous organisation of the individual and not to the form of attack. This is supported by the fact that cases in which epileptic attacks are succeeded by "co-ordinated convulsions" present (as we saw in the first lecture) distinct characteristics in age, sex, causation, and conditions under which the fit occurs. In these respects they resemble the patients in whom such attacks of hysteroid character occur without any preceding epileptoid symptoms. These facts make it probable that there is in these epileptics, in addition to the instability of nerve-tissue which causes epilepsy, also the instability, whatever it may be, which gives rise to hysteroid attacks. "Loss of control" may be the immediate mechanism by which this instability is thrown into operation, but will not alone account for its existence, and is no necessary condition for its manifestation. Nevertheless, in some patients the hysteroid tendency may be so slight that it never manifests itself spontaneously—never except during the post-epileptic state. Hence I think that the old conclusion is the true one; that all patients who present these co-ordinated convulsions after epileptic attacks are really the subjects of both epilepsy and hysteria. The existence of the epileptic symptoms may be obvious, or may be most difficult to detect; initial simple tonic spasm cannot be regarded as evidence of their existence, and it may be practically impossible to say, in many cases, without the rare opportunity of witnessing the onset of the attacks, whether there is or is not an initial truly epileptiform seizure. This is the explanation of a point in the method of these lectures which may have occasioned surprise; while endeavouring to distinguish the two diseases, I have not ventured to separate them. Such a separation I believe to be practically impossible; to attempt it would entail an error, the amount of which would be unknown, and certainly large. I have therefore considered each fact with regard to the entire series; endeavouring to ascertain, however, the extent to which it is true of the cases with, and those without hystero-epileptic, or co-ordinated convulsion. The former term, "hystero-epileptic," has been employed in its popular meaning, without reference to theory, as a designation for the severer forms of hysteroid attack, in which their violence, severity, and recurrence bring them practically nearer to the disease which we call epilepsy than to that which we designate hysteria. I cannot but think that it would be a gain if we were to discard the dubious word "hysteria," even in its modifications, as a designation for such attacks, and call them simply "co-ordinated convulsions."

Such forms of attack, in which the convulsive phenomena are violent in degree and disorderly in sequence, are in the lowest grade of co-ordinated phenomena, while the highest are those forms of involuntary action which we call automatic. In these, complex actions are performed, sometimes with considerable skill, of which the patient is subsequently entirely unconscious. Dr. Hughlings Jackson has long maintained that these are really post-epileptic phenomena. That they are commonly such, all must, I think, agree. The older view was that these were true epileptic events, the result of such changes in the brain as might, in another degree or part, constitute an ordinary epileptic attack. While recognising that they are commonly post-epileptic, I doubt whether the older view must be entirely discarded. Many of the phenomena mentioned in the first lecture may make us hesitate to assent to the conclusion that the discharge of epilepsy must always cause inco-ordinate symptoms. What, for instance, is the vision of an old woman making ugly faces, which one patient had sometimes as the aura of a fit, sometimes as an attack of *petit mal*, but an automatic action of—a co-ordinated discharge in—the centre for visual ideas? The remarkable aura which I detailed at length suggests the same explanation, and so do many others that were alluded to. I have seen a patient suddenly, while being watched, without the slightest pallor, hesitation, or any symptom to indicate a discharge in the highest centre, proceed to empty his pockets, take off his coat, or to some action which in him characterised and I think constituted his attacks of minor epilepsy. With regard to the attacks of post-epileptic automatism, the same difficulties face us as in the case of the co-ordinated convulsion. We have the facts that in one individual attacks may always be followed by automatic action; and in another, similar attacks may never be so followed. This suggests that there is, underlying the phenomenon, a condition of the centres on which it depends. Were it not for this condition the epileptic attack would not lead to it, and this condition may, in rare cases, cause its primary manifestation.

Lectures
ON SOME
RECENT INVESTIGATIONS
INTO THE
PATHOLOGY OF INFECTIVE AND CONTAGIOUS DISEASES.

Delivered in connexion with the Brown Institution, at the University of London, Dec. 1879,

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LECTURE I.—PART III.

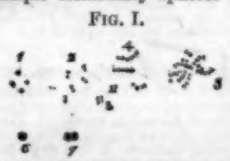
I MAY now proceed briefly to describe these several genera of bacteria, limiting myself to the forms which may be observed in a pathological connexion, though not necessarily as the causes or results of disease.

Micrococci: Spherical Bacteria. — The simplest forms of bacteria are the spherical or globular bacteria—micrococci. Various names have been given to these: thus one variety has been called *microsporon* by Klebs; and there are other names applied to various groupings of these bodies. They are distinguished from rod-shaped bacteria by their globular or ovoid form. According to Cohn, they are cells, colourless or slightly coloured, which multiply by transverse fission into moniliform filaments consisting of two or more members, so as to form a chain (torula-form); or else into large colonies or balls; or into masses consisting of innumerable members massed together, with but little intercellular substance, which are variously called glœa, zooglœa (Cohn), or mycoderma (Pasteur). According to Cohn they are motionless. Individual micrococci are usually less than one micromillimetre ($1\mu = \frac{1}{25400}$ in.) in diameter, their size of course varying with the different species, and also to some extent with their nutrition.

Many different terms are used to designate the various forms which the elementary spherules produce by their arrangement—such as chain-form, rosary-form, dumb-bell-form, sarcina-form, and the like. But it is much better to discard these terms, together with names like "leptothrix" and "vibrio," which have no special meaning, merely indicating forms which may be assumed by very different organisms.

The form in which micrococci are usually met with and most readily distinguished in decomposing animal fluids, or in the living fluids of the body under pathological conditions, is that usually called double or dumb-bell micrococci. They have then the appearance of two minute, highly refractile spherules closely joined together; this, in fact, representing an organism in course of division; but such is the activity of reproductive fission that it is the condition in which they commonly appear. This form is represented in Fig. I., 2 and 7; the simple elementary spheres being seen at 1

FIG. I.



and 6. Doubtless an explanation of this fact is that before complete separation occurs between the two members of a divided micrococcus the process of fission in the separating members has already commenced, so that they are rarely seen as isolated spheres. When, however, they grow more slowly in a tissue or in a quiescent fluid, they may form

chains, single or in groups, as at 4 and 5 (Fig. I.), or sarcina-like groups of four, as at 3—the latter more rarely; and they have also an especial tendency to grow into globular masses composed of an infinite number of densely aggregated individuals.

Whether as isolated double elements, or in zoogloea masses, many micrococci stain very readily and deeply with various reagents, and not unfrequently of peculiarly vivid colour, this fact, as we shall see, being of especial value in the study of their relations to disease.

Having mentioned that, according to Cohn, micrococci are motionless, I must add that they very commonly appear to be in very active movement, and that this movement does not always appear, judging by ordinary criteria, to be a mere Brownian movement. It is, I believe, very probably due to the active nutritive and molecular changes which they are undergoing in the course of their rapid growth and fission.

Micrococci are met with in nearly all infective fluids, and, indeed, in all decomposing animal fluids at certain stages. In the lymph of vaccinia, and some other contagious fluids, micrococci are also constantly present. I shall mention later some of the views which have been entertained as to their significance in these fluids; here I may say that whilst some have divided micrococci into zymogenic or fermentation-producing, chromogenic or colour-forming, and pathogenic or disease-causing, attempts have also been made to attribute to these bodies the *rôle* of contagia, and thus the micrococcus vaccinæ, micrococcus diphtheriticus, and many others have been described. For all these it must be said that the term *pathogenic* should not be used, unless it can be shown that these bodies are not merely constantly present, but that they are the actual causes of the disease; a point to be further considered.

Can micrococci alter their form and become further developed into rod-shaped bacteria, or do rod-shaped bacteria divide into micrococci? These questions are as yet only incompletely solved. Billroth is one of the chief authorities in favour of the view that micrococcus and bacterium are two forms of the same organism. Klebs alleges that he has seen bacteria divide into micrococci. Dr. Cossar Ewart states that he has seen bacterium termo elongate and form numerous spores, which escape and form swarms, which, if separate, would be indistinguishable from micrococci.[1] Like many others, I believe it to be highly probable, for many reasons, that micrococci may be spores of rod bacteria, but I have not been able to prove it experimentally. I have grown micrococci in successive generations under varying conditions, but without ever producing a single rod bacterium, and so has Professor Ewart. Amongst the facts which indicate it as probable that some micrococci are the spores of some rod bacteria is the fact that rod bacteria often contain nuclei closely resembling those of bacilli, and these very possibly hold a similar relation to them. Another fact is that in cultivating the spores from a bacillus and watching them through various generations, I have found that sometimes they pass into a condition in which they continued to multiply, but from which I was unable to reproduce the bacillus.

Bacteria proper; Rod-shaped Bacteria.—The second genus, bacterium proper, includes several varieties, of which the most important for our purpose is the common bacterium

FIG. II.

1 and 2, Rods of bacterium termo. 4, The same under higher power, showing flagella (these should be longer and the bodies shorter). 5, Rod dividing. 3, Part of zoogloea mass under a lower power.

termo of decomposition. Rod-shaped bacteria consist of short rods which multiply by transverse fission, not forming long chains, but, according to Cohn, only four members at the most being seen in a line. These rods are usually in active movement, having, however, alternate stages of rest and motion at different periods of their existence. In the motile stage they possess flagella, usually one at each extremity, and in all probability this is true of all the forms which possess the power of movement at any stage, though as yet only proved with regard to a few species. In the case of bacterium termo, the flagella were, I believe, first described by Dallinger and Drysdale,[2] and they have since been observed by others. The extreme difficulty in observing them may be judged from the fact that the average length of bacterium termo, as estimated by Dallinger, is only 2·5 μ, or $\frac{1}{10160}$ inch; the diameter of the body ·8 μ; whilst the diameter of the flagellum is only ·08 μ, or about $\frac{1}{101600}$ of an inch. If, however, a fluid containing bacterium termo in active growth be watched, one may often see during the process of fission that a rod becomes attached to the cover-slip, then divides, and the parts separate; but the free rod, which is in more active movement, struggles for some time before it becomes detached, and every movement is attended by a corresponding motion of the fixed rod, showing that though at a distance, the two are still attached by an invisible link, resolved by higher powers into the thread-like flagella.

When bacteria are cultivated they grow into zoogloea masses, in which is a definite permanent intercellular substance, formed, according to Cohn, by the partial solution of their envelope. The formation of spores in bacterium termo has been observed to occur in two ways. Dr. Ewart (*loc. cit.*) states that he has seen them growing into long rods, in which spherical spores developed at short intervals. These, after two or three days, became free, and lay isolated or formed a zoogloea, subsequently germinating into short rods. The individual spores themselves closely resembled micrococci, but did not, like them, undergo subsequent division. The other form in which spores are observed consists in the presence of a single nucleus-like body at the end of a short rod—a condition not uncommonly seen in putrescent fluids.

It will thus be seen that there are many analogies between the changes occurring in these bacteria and those to be described in bacilli. Bacterium termo comprises members having considerable differences in size and length; the latter usually varies from 2 to 4·5 μ. Their especial pathological interest has reference to their constant occurrence in the course of putrefaction, and the experimental researches in the production of sepsin by their action.

3. *Filamentous Bacteria (Faden-bacterien); Bacilli.*—It is in relation to this group, which may be regarded as practically coextensive with bacilli, that the most important discoveries of recent years have been made. And, as there seems to be a sort of glamour about the very name "bacillus," it seems desirable that I should dwell upon the group with some detail.

Bacilli were originally defined by Cohn as consisting of elongated cylindrical parts, which when isolated are similar to bacterium lineola, and multiply by transverse fission; but which also form long chains composed of similar rods, at the junction of which no constrictions are seen. Cohn stated that they often form swarms, but never true zoogloea masses. They, like bacterium termo and lineola, have alternate stages of rest and motion. The facts thus stated by Cohn represent important features of bacilli, but there are many others of no less importance. For we now know that bacilli go through a number of stages of development, and assume various conditions, the formation of spores being one of the most important. In short, bacillus rods may elongate and divide into a number of rods, or assume the shape of long filaments in which spores develop. Again, these spores may become free and escape from the filaments, or the filament may break up into segments corresponding to the spores; the spores may form swarms or remain isolated; and they may, previous to regeneration of the filaments, themselves undergo subdivision. In describing these changes more minutely I shall divide the genus bacillus into two groups, and shall take as types of each bacilli which I have myself observed.

The first class presents a transition stage from bacterium termo, and it may be a question whether further observation will show its greater analogy with that class, or whether it is a merely accidental variation in mode of growth. It is a class in which the rods, after multiplication, do not form long convoluted filaments, but arrange themselves in heaps,

[1] M. Dallinger has, I believe, recently stated that he has watched the transition of one into the other form, but I have not seen the paper.

[2] Jour. Roy. Microsc. Soc., 1878. Vol. i., p. 169.

not unlike the zooglœa of bacterium termo. I have been able to watch the growth of only one bacillus of this kind; it appears to be identical with one described by Dr. Koch, as occurring under similar conditions. This was an extremely minute bacillus found in a form of septicæmia in the guinea-pig, and represented in Figs. 3, 4, and 5. The bacillus as seen in its simplest condition is a slender rod, as at Fig. III. 1. Sometimes two are joined end to end, as at Fig. III. 2. These rods under cultivation elongate into filaments from six to eight times the length of the original

FIG. III.

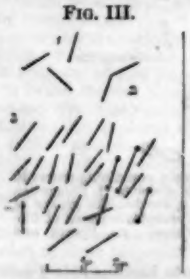


FIG. IV.

FIG. III.—Bacillus from a form of septicæmia in the guinea-pig (semi-diagrammatic). 1, Straight rods. 2, Two rods joined together, forming a bent rod. 3, Group of rods, some with spores, after cultivation.

FIG. IV.—The same under cultivation, more highly magnified (semi-diagrammatic). 1, Simple elongated filament. 2, Filament showing signs of division. 3, Same as 2, but one spore seen. 4, Rods containing spores.

rod, and either break up into shorter rods, as at Fig. IV. 2, or remain homogeneous (Fig. IV. 1). In these rods spore-formation takes place, either in the free rod, as in Fig. IV., or in the zooglœa masses, as at Fig. V. The growth of these zooglœa masses is a matter of some interest. If a cultivation be watched it will be found that rounded masses develop, which, on examination, consist of short rods densely massed together, towards the outer part radially arranged, and in the centre often appearing to consist almost entirely of spores (possibly partly due to rods seen endwise). A segment of such a mass somewhat diagrammatically represented is seen in Fig. V. If the individual

FIG. V.

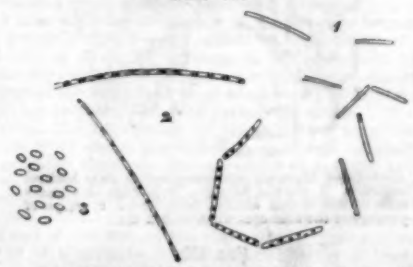
Segment of a circular zooglœa mass, composed of rods and spores.

elements are studied with a higher power, as at Fig. IV. 4, there will be found rods with two spores together in the centre, rods with terminal spores, some in course of division, and short rods with one spore at or near the end. These elements are identical in shape with those seen in other bacilli, and on these and other grounds I have agreed with Koch in including them in that class.[3]

The second-class, that better known, consists of the group of bacilli which comprises bacillus anthracis. What I shall have to say with regard to the changes seen in bacillus anthracis holds good for the most part of several other bacilli. A bacillus, which I shall be able to show you in several stages, grown from the serous fluid of a "farcy bud," the bacillus of hay infusion described by Cohn, a bacillus shown by Timothy Lewis to develop in the blood of some healthy animals after death, the bacillus of pneumo-enteritis of swine discovered by Klein, the bacillus malariæ of Klebs, and probably many others, different in size, habitat, and pathological relations, varying also in some particulars, yet all follow much the same general course of growth under cultivation. These changes we may now study with the aid of Figs. VI. to X., most of which are from drawings of bacillus anthracis.

The bacillus rods, as seen in the blood (Fig. VI., 1), are

FIG. VI.



Bacillus anthracis. 1, Rods as seen in the blood, viewed with magnifying power of about 450 diameters, and enlarged to double the size of original drawing. 2, Rods formed in cultivation, magnified 500 diameters, enlarged. 3, Group of spores. (Semi-diagrammatic.)

long and slender, almost homogeneous or slightly granular in appearance. Frequently they are more or less curved or bent; they may be longer and jointed, in this case being made up of several segments in course of separation. In the animal body they usually multiply by elongation and transverse fission, and probably only in this way under the common conditions. But when artificially cultivated, and also under certain favourable conditions in the body during life or after death, a different course of multiplication is observed. The rods elongate to an enormous length, and form dense masses of filaments, which curve in various directions, sometimes forming spirals or loops, at others lying in parallel bundles, or various other arrangements. Sometimes also they merely form bundles of shorter parallel rods, the bundles often crossing each other obliquely. In the filaments thus formed various changes may ensue, which may be considered separately as modes of fission and modes of spore formation. The filaments may break up into short or long segments previously to spore formation, as at 1 and 2, Fig. VII., and 1, 3, and 4, Fig. IX.

FIG. VII.

Bacillus from farcy-bud. 1, Curving filaments, showing irregular granules, many situated laterally. 2, Filament breaking up into short rods, at the ends of which are commencing spores. 3, Filament with regularly arranged spores. 4, Parts of filament after breaking up. 5, Spores. 6, Sporules. (These are drawn too small. See Fig. X.)

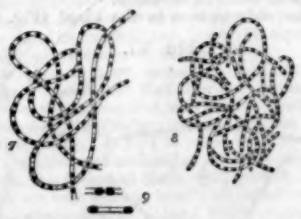
More commonly spore formation occurs previously to complete fission, and the spores escape from the filaments, or the latter break up into spore-containing segments.

The mode of formation of spores can readily be watched in the bacillus anthracis, owing to its relatively large size. In Fig. IX. I have drawn a number of these stages, as seen in a recent cultivation. The filament or rod consists, as we know, of a delicate sheath, enclosing granular protoplasm. In the ordinary rod condition the separation of the two is often made out only with difficulty. When cultivated the central protoplasm becomes more distinct at certain points, and aggregates itself into masses, either uniformly or at irregular inter-

[3] To avoid further reference, I may say that this particular bacillus is a still one, so far as I have seen. I was able to cultivate it through seven successive generations. Its extreme minuteness makes its study a matter of extreme difficulty; the stages represented in Fig. IV. were only seen with 1-25th inch and very careful illumination. The measurements are, for the same reason, only approximative, and the figures are diagrammatic enlargements of my original sketches.

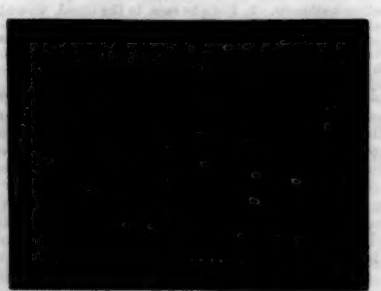
vals, the spaces between becoming clear, and some indication of commencing segmentation of the filament also appearing. In the granular protoplasm there now appear bright, highly-refractile, oily-looking points, which increase in size, and

FIG. VIII.



7, Convoluted filaments containing spores from bacillus anthracis. 8, Similar filaments from edge of a dense mass of convoluted bacillus from farcy. 9, Shape of portions of the filaments when broken up.

FIG. IX.



Drawing from a cultivation of bacillus anthracis (Zeiss., oil-imm. 1-12; Hartnack, oc. 4). 1, Short rod, in which the protoplasm is undergoing central segmentation. 2, Rod in which only spores are visible. 3, Filament separating into three rods, one clear, another showing partial spore-formation, that nearest the figure merely segmentation of protoplasm. 4, Filament dividing into short homogeneous masses of protoplasm. 5, 6, 7, and 8, show portions of long filaments in which various modes and stages of spore-formation are seen. 9, Filament containing numerous spores very close together. 10, From another cultivation containing sporules, one germinating into a rod.
(In the woodcut the space between the sheath of the filament and its contents is necessarily represented somewhat too wide. In 5 there was no visible separation between the two in the original drawing. The ends of the rods and of the protoplasmic contents should be more blunt, less rounded.)

form the spores. Sometimes the entire protoplasmic mass seems to be absorbed by the spore, at others a portion remains surrounding it. It is not uncommon to see the first sign of spore-formation at the sides of the filament, as in 1, Fig. VII. This has been made a ground of distinction of bacillus malariæ, but I have seen lateral spore-formation in two other kinds of bacilli. When formed, the spores may be arranged pretty close together or at regular and nearly equal intervals, or in pairs, or sometimes scattered more irregularly. (See Figs. VI., VII., VIII., and IX.) The spores may now become free by escape from the rod, and remain isolated, or form swarms, as at 3, Fig. VI. Or, again, the filament may waste, the spores remaining *in situ*, as at 8, Fig. VIII., or it may break up into pieces, each containing a spore near or at the end, as in Fig. VII. 4, and Fig. VIII. 9.

The spores thus formed are, in the case of bacillus anthracis, oblong bodies, very highly refractile, and, when examined under a very high power, seem to have an outer hyaline sheath (Fig. X. iii.) If kept under conditions favourable to slow germination, they are apt again to subdivide into smaller bodies (*Sporules*, Ewart). This change is seen in Fig. X. The spore elongates, becomes hour-glass-shaped, then divides, each segment again dividing laterally, so that a group of four, sarcina-like, is formed. This change was, I believe, first described by Ewart as occurring in bacillus anthracis; I have myself repeatedly observed it in the same, and also in the bacillus from farcy. I agree with Dr. Ewart that it is not a degenerative change, for the fluid from which the organisms in Fig. X. were drawn was used to inoculate a sheep with fatal effect, and I have been able to trace growth of bacillus rods from these sporules; as has Ewart also.

FIG. X.

Old cultivation of bacillus anthracis, containing spores in course of division. I. Stages of division. 1, Elongation and constriction in centre. 2, Sarcina-like groups of sporules. II. Rows of spores (probably remains of filament), some undergoing division. III. Spores and sporules more highly magnified.

Of the growth of the spores into bacillus rods I must say but little. Unquestionably they do grow into rods, for if a minute quantity of fluid containing no visible microscopic elements but spores be cultivated, rods are reproduced, and if the spores alone of bacillus anthracis are inoculated in a living animal, they reproduce the typical disease with enormous development of rods in the blood. But the precise mode of growth has been disputed. Some say that the central protoplasm of the spore elongates into the rods, bursting the capsule; others that the capsule also elongates; whilst others insist that the capsule, or remains of the filament, grow into the rod, the spore proper remaining unchanged. My own observations lead me to believe that the spore as a whole elongates into the rod, but I do not venture to offer a decided opinion.

I have thus sketched some of the more important morphological changes. The importance of the spore-formation, and of the division of the spores into sporules, become especially apparent when we have to deal with their durability, and their relations to disease. I have not described the flagella which exist in some forms—they need only be mentioned here.

I shall say nothing of spirillum, as I have not any facts to state derived from my own observation. For these and other details I may refer to the authorities already quoted.

ON LITHOTRITY;

WITH CASES ILLUSTRATING THE IMPORTANCE OF EARLY DETECTION OF THE STONE; AND STATISTICS OF STONE OPERATIONS IN THE HOSPITALS OF GLASGOW FROM 1795 TILL 1880.[1]

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THIS communication contains little that is new except the statistics of the Glasgow hospitals. The arguments in favour of lithotrity have been presented in nearly identical terms in many papers and treatises which have appeared in recent years; nevertheless I think that this is one of the subjects which should be brought before the profession periodically, as experience increases, say at intervals of ten or twenty years.

In 1859 I compiled, for the late Professor Lawrie, a statistical table of the operations in the Glasgow Royal Infirmary. The statistics were published in the *Glasgow Medical Journal* for April, 1859. In 1868 I read before this Society a paper on lithotrity, and in it gave the results of the operations contained in the records of the Royal Infirmary till that date. In the present communication I shall give the statistics of all the operations for stone performed in the hospitals of Glasgow, from the opening of the Royal Infirmary in 1795 and the Western Infirmary in 1874, till 1st January, 1880.

[1] Read before the Glasgow Medico-Chirurgical Society.

The bringing forward of these figures, however, I intend to make the occasion for a few remarks on the operations for calculus; which indeed are but the reiteration of what has been said by Civiale, Sir B. Brodie, Sir W. Fergusson, Dr. Prout, Sir Henry Thompson, Mr. Coulson, and others, and in the various Systems of Surgery. Still, a profession constantly changing as ours is, by the addition of junior members, ought to have brought before it, from time to time, subjects admitting of discussion as this does, especially when the experience of later years is gradually substituting one operation for another, which was universal at a comparatively recent period.

The most recent conclusions arrived at may be best expressed in two propositions.

1. It is of the utmost importance that the presence of a calculus in the bladder should be ascertained before it has reached any considerable size; and as a corollary the bladder should always be explored with a sound, on the occurrence of the earliest symptom.

2. All small and moderate-sized calculi may be removed by the lithotrite, and, as a consequence, when this doctrine is accepted and carried into practice, lithotomy will gradually be abandoned, except in cases of an exceptional nature as regards the stone and patient.

On each of these propositions I shall make a few remarks.

First: the early detection of the stone. This is the key to the whole position. Of course it is true of all diseases that the sooner they are detected and their nature proved the better both for patient and surgeon. But it is true in a different sense for calculus, because it may make the difference between a nearly perfectly safe operation of lithotrity and a very dangerous one of lithotomy or lithotrity.

Let me recall for a moment the prominent symptoms.

(*a*) Pain in the perineum or the region of the base of the bladder, often accompanied by pain in the point of the penis. But pain is often altogether absent in early stages of calculus, and frequently present in cases of bladder disease in which there is no calculus; as in two cases under my care just now in which the patients describe the suffering at the orifice of the urethra as most acute.

(*b*) Frequent desire to pass urine. This is an accompaniment of irritation of the bladder from whatever cause, but being present, is a sufficient reason of itself to warrant a careful search for a stone.

(*c*) The presence of blood, either in the urine or coming in a few drops after urine has been passed. This also is present in many bladder and urethral affections, even in the second form mentioned.

(*d*) Interference with the continuity of the flow of urine—i.e., either partial or total interruption of the stream, which recommences after a short interval or by change of position.

(*e*) Easily observable changes in the urine, as in colour, clearness or rather muddiness, thickness, viscidity, odour, &c., which are often remarked by the patient himself, and are the cause of his consulting his medical attendant without any of the other symptoms referred to. These are the evidences of chronic cystitis, which is more often idiopathic than the consequence of stone, but in many examples are the only symptoms to indicate the presence of a stone.

Now, with regard to these five symptoms which I have enumerated, I presume that if any patient came under medical treatment with them all present, there are few if any medical men who would not at once suggest that an exploration of the bladder should be made at the very first. But I am not so sure that it would be recognised as a general principle, that so soon as a patient presents any one or even two of them, the exploration should be made.

It is generally believed that stone in the bladder is not so common in this country as it was fifty years ago, and if that is true the necessity of searching for it is, numerically, not so imperative as formerly, still it is sufficiently common to make it important to have it in view in presence of the symptoms referred to. I shall have something to say in a subsequent part of this paper with regard to statistics of stone, but with reference to its frequency I may here state that since 1858, the date of my first lithotomy, I have had eighty cases of calculus in the bladder besides a few in the urethra.

Now I can assert that while in most of the cases which have come under my notice, two or more of the symptoms were present, yet in several instances only one of them attracted notice and continued the sole evidence for a considerable period, till the introduction of the sound proved the presence of a stone. And what I think ought to be recognised as a principle in all urinary disorders is, that as soon as one of the known symptoms of stone is discovered, the bladder should be explored by a sound. The manipulation scarcely ever gives any annoyance if performed with a properly constructed sound and a gentle hand, and the information obtained, positive or negative, is of the utmost importance. If the calculus is very small it may elude detection at a first examination, so that if the symptoms either continue or recur the sounding should be repeated. By this means a stone could be discovered before it has grown larger than a garden bean, and if the practice referred to were generally adopted, few stones would ever come to be dealt with of a size to be seen in all collections at the present day, except where from gross neglect on the part of the patient the symptoms were concealed and endured till increasing suffering drove the patient for advice.

I think the importance of searching for stone on the occurrence of *one* of the first four symptoms alluded to—that is, before there are any symptoms of cystitis, which is almost always accompanied by alkalinity of the urine—is rendered evident by a knowledge of the intimate structure of calculi; for an examination of any considerable collection of calculi shows that in the vast majority of examples, the nucleus of a calculus is uric acid or oxalate of lime, and that a phosphatic calculus is a very rare thing. When such a phosphatic stone does exist, it consists in almost every instance of an aggregation of smaller pieces held together by inspissated mucus, or which have become adherent to one another first by mutual pressure and then by consolidation of the intervening substance. Such calculi are somewhat porous, like pumice-stone. When in 1874 I removed my pathological collection to a room provided for me in the Western Infirmary, Dr. Foulis (at that time my house-surgeon), undertook to arrange and catalogue the preparations; and before arranging the calculi I got every one of them sawn through the centre, and thus exposed the internal as well as the external structure. And the examination of these sections convinced me of the almost universal prevalence of a nucleus of oxalates or urates, whatever the external shell of the stone might be. Dr. Foulis informs me that since he has been appointed the pathologist of the Royal Infirmary, he has examined the specimens there in a similar way with the same results. This corresponds with what has been found in the examination of all collections in which the calculi have been divided, so as to expose their internal structure. But in many collections this has not been done so uniformly as to make the observations complete.

Now, as oxalate and urate calculi are hard and presumably of slow growth compared with phosphatic, it follows that in the history of all calculi or nearly all, there is a time, and a considerable time, when they are small, hard, and of slow growth, and that is just the time when their presence may be indicated by the symptoms—pain, desire to micturate, blood, interference with the flow—occurring either singly or at considerable intervals, with intervening periods of total cessation of these symptoms, so as to throw the patient and even the medical adviser off their guard. And this is true to some degree even of the small number of calculi which are phosphatic from their first origin.

I think, then, we may conclude that if only the patient would apply on the first occurrence of anything unusual connected with his urine or the region of the bladder, and the medical attendant would have the bladder at once explored, calculi would be detected when of very small size, in almost all instances.

2. The second proposition I would bring forward is that all small and moderate-sized calculi may be removed with almost perfect certainty of a favourable result by lithotrity. This general statement must indeed be modified by the circumstances of each case, involving the condition of the patient and the nature of the stone. But I may state the case as follows: Given an adult in fair health, with a normal urethra, the bladder not too irritable, and containing a calculus not larger than a filbert,—any surgeon using the lithotrite with ordinary care may with confidence undertake to remove the stone by lithotrity with very little anxiety as to the result. But in the case of lithotomy it is different, as all practical surgeons know. There is anxiety as to the result even after an operation performed with dexterity and success, so far as the manipulation is concerned. Sir William Fergusson's words on this subject cannot be too thoughtfully considered—"There seems to me to be a mystery associated with lithotomy which has not yet been solved. For palpable

errors there is an explanation; but when to all appearance there has been perfection in the operation, and yet death has been the issue, I confess I have been puzzled beyond measure." Again: "Working on inanimate material, no doubt precise manipulation must be of the most perfect effect; but when the phenomena of life are involved, the result seems in most instances beyond human control." I think every one who has had much experience of lithotomy will corroborate Sir William Fergusson's words.

I do not think that numerical results founded on the experience of any one in Scotland, as yet, will do much to help my argument; nor are the aggregate results as obtained from statistics of the Scottish hospitals sufficiently extensive to authorise any valid conclusion; still the experience of individual cases will often bias an operator in a way which is both intelligible and justifiable.

My first intimate connexion with lithotrity was in the case of a gentleman who in 1861, when sixty-four years of age, was cut for stone by Mr. Syme, who extracted two uric acid calculi. In 1864 a recurrence took place, so that in 1865 he had a stone removed by lithotrity by Sir Henry Thompson. In 1867 it again recurred, and I removed it by lithotrity in a fortnight, and from that time till his death in 1872 he continued perfectly free from all trouble in connexion with urination. Now a comparison of the pain and discomfort which he suffered after lithotomy with the relatively little annoyance while undergoing lithotrity, made a most powerful impression on me in favour of the latter. Previous to this operation I had done my first lithotrity on a patient in the Royal Infirmary, in July, 1866, with success. There are several gentlemen well up in years, from whom I have removed calculi by lithotrity with very little trouble or annoyance to them, now in perfect health; on whom, I confess, I would have performed lithotomy with very great anxiety and fear for the result. So that my own opinion is strongly in favour of lithotrity in favourable cases, and certainly always in the case of stones of small size.

(To be concluded.)

THE DIAGNOSIS OF TUMOURS OF THE CEREBELLUM.[1]

BY STEPHEN MACKENZIE, M.D., F.R.C.P.,
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BEFORE speaking of the symptoms which enable us to diagnose tumour of the cerebellum, it will be convenient to describe three cases which illustrate these symptoms, and in which post-mortem examination verified the diagnosis.

CASE 1.—J. G——, aged two years and eight months. Previous to the age of two years walked, and was quick in intellect. When seen for the first time, August 3rd, 1876, by Mr. Garrett, the clinical assistant at the London Hospital, it was elicited that the first symptoms noticed were staring of the eyes and stiffness of the neck. When these symptoms had lasted about two months, vomiting occurred, and the child became feverish and sleepy. She was said to have oxyurides. On August 31st double optic neuritis was observed. The child was constantly moaning, but was not then sick. I saw the patient on Sept. 4th, and found her wasted, moaning, and fretful. The head was large, and extremely retracted, and it could not be bent forward. There was well-marked double optic neuritis in an acute stage. Owing to the extreme retraction of the head, there was constant gurgling in the throat from bending and stretching of the trachea. When she swallowed liquids her mother said they came back through her nose. Her head had been persistently retracted about a week; previous to that she had leaned it upon her right hand. She had attacks in which she became quite stiff. There was no paralysis of the bladder. No affection of the sight had been observed when she was brought to the hospital. She could shut her eyes when told to do so. From the presence of double optic neuritis I inferred intracranial tumour. The enlargement and retraction of the head, and the history of tetanic seizures, led me to diagnose without hesitation tumour of the cerebellum. There was no index as to its nature. The case had been regarded as one of meningitis. I suggested the administration of iodide of potassium. She was seen on Sept. 7th and 14th, and her condition was practically the same. She resisted attempts to draw her head forward by putting up her hands. On the 14th there was doubtful drooping of the right eyelid. She died on the 16th. One week before her death she had two partial fits, in which "she went stiff, and turned up her eyes and her lips."

The necropsy was made ten hours after death by Mr. Garrett. The ventricles of the brain, including the fourth, were distended with fluid. The cerebellum was adherent to the occipital bone. On its inferior surface was an irregular flattened tumour spread out beneath both lateral lobes, and compressing antero-posteriorly the middle lobe.

Microscopical examination showed the tumour to be a myxomatous glioma.

CASE 2.—A. D——, aged three years and three months at time of death. Always thin and somewhat delicate. The child "always had a dreadful look in the eyes; they were beautiful but sunken and dark." When twelve months old, in climbing over the door-board, he fell, striking his head. It was thought from the direction in which he fell that he struck his head in the frontal region. He appeared to have no ill-effects from the fall, either at the time or subsequently. Was thought to have consumptive bowels when six months old, and at this time had some head symptoms. When a year and a half old he had a fit. "He lay quite stiff and firm, as if he was dead." He was so stiff that his father said, "It was no use getting a bath for him." He lay in the fit about twenty minutes, and it was followed at first by cerebral excitement, and afterwards by stupor and temporary strabismus. Three months later he had whooping-cough very badly, and the cough did not leave him for twelve months. His walking was not so good after the whooping-cough, and he used to sit down a good deal. He quickly lost the use of his legs. He did not reel nor stagger, or at least not much. He was brought to me at the London Hospital November 17th, 1877. He was then a well-nourished child with a large head. He was unable to stand. He was irritable and screamed a good deal. His head had not been observed to be enlarged when he was brought to the hospital, but after this was pointed out to the mother she tried on his caps and found them all too small, and he could only just wear his father's. Ophthalmoscopic examination showed the presence of double optic neuritis. The enlargement of the head, the loss of power in the lower extremities, and the history of convulsive seizures of a tetanic character led me to suspect a tumour of the cerebellum, involving probably the middle lobe. At subsequent visits the observations were confirmed, and the diagnosis made with greater confidence. In January, 1878, he had a fit, in which the left arm and right leg were quite stiff, the right arm and left leg being much less so. Soon after this the left arm was noticed to be weak, so that he never used it. Expedients were tried to induce him to do so, but he was tremulous with it. From this time he drooped more. His head was now so heavy that he could not raise it, and he always lay with the right side on the pillow. In February he had numerous convulsive attacks (indeed, almost whenever he was moved), in which his legs became stiffened and straight, with the toes turned in. From this time his dejections were passed under him; he had previously been continent. In July I noted the head had continued to enlarge greatly; it was 22½ in. in circumference at the centre of the forehead. The anterior fontanelle was widely opened. The enlargement of the head was chiefly at the back part, behind the ears. There was still lymph on the discs. From this time till his death in January, 1879, all his symptoms deepened. His head continued to enlarge; he became quite blind; he had frequent attacks in which all his extremities became quite rigid, the legs being extended, with the feet turned in, the arms being rigid and pronated to the utmost, or at other times (especially at an earlier period) flexed. He became affected with thrush, but it did not appear to add to his distress. For two or three months he took no notice of anything, did not open his mouth for food, did not cry or smile, but moaned. For the last three weeks "he took no food whatever." If fluids were placed in his mouth, they lay there without his making any attempts at swallowing. He now wasted rapidly. For the last three or four days he

[1] Read before the Hunterian Society, Nov. 26th, 1879.

lay on his left side, his arms perfectly rigid, either pronated or supinated to the utmost. The fingers were extended to such a degree that his mother says, "No person could (voluntarily) put his hand into such a position." The legs were rigid, and perfectly extended. His eyes at times rolled up, at others were naturally directed. His head was drawn back occasionally, but not to an extreme degree.

Necropsy day following death.—Head greatly enlarged, measuring 23½ inches in circumference, 7⅝ inches in antero-posterior axis, and 6⅜ inches at the widest lateral diameter, behind the ears. Enlargement of head not quite symmetrical on two sides. Anterior and posterior fontanelles open over a space about the size of a shilling piece. Coronal and occipito-parietal sutures gaping, the bones nowhere meeting. The sagittal suture yielded slightly, but less so than the others. Fontanelles depressed, eyeballs sunken in orbits, features natural. Calvaria extremely thin—a mere shell, semi-translucent. Dura adherent to calvaria. Pia natural. Brain removed entire with great difficulty, owing to its fluid contents. Convolutions much flattened and almost translucent; tremulous from the fluid in ventricles. Infundibulum distended; when cut into about three pints (measured) of clear fluid escaped from the ventricles, and the brain collapsed into a flattened mass. The hemispheres were not thicker than a quarter of an inch. The lateral ventricles were enormously dilated, measuring almost six inches in the long diameter. They formed two large, almost spherical sacs. The other ventricles were all enormously dilated; the iter a tertio ad quartam ventriculum admitted a finger. In the floor of the left lateral ventricle was an irregular nodular mass of yellowish-green colour, with smaller excrescences, projecting into the ventricle from about the situation of the corpus striatum. The smaller nodules on the surface were white or whitish yellow. When cut into the mass was of a yellowish-green colour, and of about the consistence of cheese. When the posterior cerebral lobes were displaced the cerebellum was observed to be unsymmetrical, the left lobe projecting higher than the right. The left and middle lobes felt very dense. On turning the lower surface upwards there was found to be a large mass occupying the middle and left lobes, covered with membrane somewhat thickened and irregular, and attached to the occipital bone. When the tumour was cut into it was found to be a dense caseous mass of greenish-yellow colour, breaking down in a few places into irregular cavities. The tumour was quite as large as a full-sized billiard ball. The medulla oblongata was much flattened in its antero-posterior direction, so as to be almost riband-like. (Fig. 1.) The thoracic and abdominal organs

FIG. 1.

Showing tumour involving middle and left lobe of cerebellum, and compressing medulla.

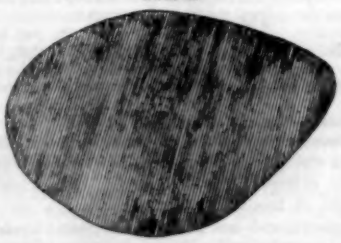
were examined and found to be healthy, except for a small patch of disintegrating caseous material at the posterior part of the right upper lobe—probably a caseous bronchial gland.

Microscopical examination showed the tumour to be a so-called "solitary tubercle," exhibiting its truly tubercular nature by perivascular lymphatic growths and giant-cells.

CASE 3.—F. A. H——, aged nineteen, admitted under my colleague, Mr. Couper, for necrosis of the jaw, toe, and tibia, in May, 1879. The notes are by Mr. Fenton Jones. He had had disease of his bones for upwards of a year. In January, 1879, headaches, to which he had always been subject, began to get worse, *his head was drawn back, and his back arched forwards, so that he rested on his shoulders and buttocks.* These symptoms—the headache, retraction of head, and arching of back—were aggravated at intervals in a paroxysmal manner, sometimes three or four times a day, the fits lasting from ten minutes to two hours. The patient had no warning of these attacks, which always occurred when he was in bed. He cried out loudly in the attacks. The only limb which was convulsed was the left hand, which he opened and shut continuously. He never passed water during a fit, and was not always quite unconscious. Always vomited freely after the fits, which relieved him, the headache disappearing, and a sound sleep following. I saw the patient on July 18th. The last fit he had had was on July 13th; it lasted longer than usual—nearly four hours. When he came under my observation he was perfectly intelligent and described well his condition. His headaches, he said, commenced at the root of the nose, radiating over the top of the head, and down the back of the neck to the situation of the seventh cervical spine. Sometimes he had pain in the temples. No motor or sensory paralysis. He could not, on account of the disease of his leg, be made to stand or walk. Sight had become defective since occurrence of fits. Objects on opposite wall of ward sometimes seemed double, sometimes as a bright spot. He could read small type—B, 0, 5—at a distance of two feet. Ophthalmoscopic examination showed double optic neuritis, each papilla being much swollen and ill-edged, the veins very large and tortuous. A few hæmorrhages were seen in vicinity of disc. Smell and taste tested and found good. Urgent vomiting now came on, which nothing relieved. He had some abdominal pain, his pulse became very rapid, and his temperature rose. He died on July 25th. The vomiting continued up to the time of his death, and his temperature when he died was 104°.

Necropsy.—A tumour of the size shown in diagram (Fig. 2) was found to occupy the left cerebellar fossa, and com-

FIG. 2.

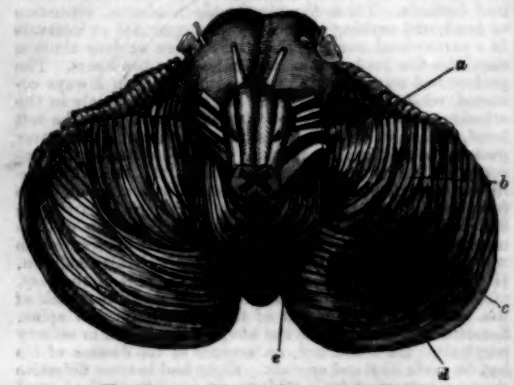


Exact size and outline of tumour.

pressed the left lobe of cerebellum. For the following valuable report of its exact relations, and the drawings, I am indebted to my colleague, Mr. Frederick Treves:—"On examining the upper surface of the cerebellum nothing abnormal could be seen or felt. The cerebellum was removed with some difficulty, the left lobe being adherent to the dura mater, and when removed it was found that the tumour had been left behind in the cranial cavity, and was attached to the dura mater covering the occipital bone. The growth was perfectly smooth, regular in outline, and egg-shaped. No brain matter was adherent to its surface, and it gave the impression that it had been lying almost free in its cavity in the cerebellum. Examined *in situ* the growth was found to occupy the left cerebellar fossa, lying with its long axis coincident with the course of the occipital sinus; on its inner side it was bounded by the falx cerebelli, and its outer surface was about a finger's breadth from the lateral sinus, as it runs into the mastoid process; while its apex nearly touched the posterior margin of the foramen magnum. The tumour was adherent to the dura mater by a surface about the size of a fourpenny piece. On further examination it was found that the tumour had occupied the interior of the left lobe, inclining especially towards its under surface. A portion of the cortical matter, indicated in the diagram (Fig. 3) by the deep shading, was entirely absent; this portion coinciding with the spot at which the

growth had become adherent to the dura mater. The faint shading indicates the extent and position of the hole left by the removal of the tumour and the extent of attenuated cortex. On replacing the brain matter torn in removing the

FIG. 3.



a, Flocculus. *b*, Digastric lobe. *c*, Slender lobe. *d*, Posterior inferior lobe. *e*, Tonsil.
The deep shading indicates the extent of complete destruction of cortex; the faint shading the extent of attenuated cortex.

left lobe it was found to be extremely thin, in some places a mere film. The 'tonsil' was quite free from encroachment. The nerves of the medulla were individually examined, but appeared quite normal. The dura mater appeared healthy; the attachment of the tumour to it was not very close." The growth was tubercular, similar to the last case.

(To be continued.)

A CASE OF GONORRHŒAL OPHTHALMIA, WITH SOME NOVEL SUGGESTIONS AS TO TREATMENT.[1]

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AS a general rule I have been unwilling to encumber medical literature with isolated cases, but I am disposed to think that exceptions may occasionally occur in which, either from extreme rarity or from the initiation of some new method of treatment, or, at any rate, a method very rarely employed and but little known, some fresh starting point may be established. Acting on this principle, and influenced by these motives, I am induced to bring the following case before the notice of the profession:—

Louisa C——, aged two and a half years, was brought to me at the Middlesex Hospital on the 15th of May, 1878. Her left eye presented all the appearances of acute gonorrhœal ophthalmia, and the collateral circumstances confirmed this diagnosis, as the child had a profuse yellow discharge from the vagina, with considerable swelling and irritation of the mucous canal. The lids were of a bright red colour and much swollen, and so densely infiltrated that even when the child was placed under the influence of an anæsthetic it was found impossible to separate them so as to ascertain the condition of the cornea. Yellow and rather thick matter was exuding from between the lids.

Judging from past experience, seeing the extreme acuteness and severity of the symptoms, the difficulty in separating the lids or exposing the cornea, and the impossibility of getting any solution into contact with the conjunctival surface, I relinquished all hope of saving the sight. I have never in the course of my experience known such a condition eventuate otherwise than in the total destruction of the eye. Under these circumstances I determined to adopt a somewhat heroic and novel proceeding, and one that has not, I believe, been published. I passed a small silver director under the upper lid as far as the edge of the orbit, against which I kept it pressed; and then, with a small, sharp-pointed bistoury, I completely divided the lid perpendicularly as far as the margin of the eyebrow. In order more completely to uncover the cornea, I separated the two angles of the divided tarsus, and fixed them with fine sutures to the skin of the eyebrow. The cornea looked steamy, but not ulcerated, and was buried in chemosed conjunctiva. The immediate effect of this proceeding was to diminish the redness and swelling of the lids and conjunctival membrane and completely to expose the surface.

In the subsequent treatment of the case I was materially assisted by the house-surgeon, Mr. Dixon, who carried out my directions with great care, skill, and assiduity. A solution of nitrate of silver—thirty grains to one ounce—was painted over the entire surface of the conjunctiva three times daily, the eye was frequently cleansed and syringed with a solution of alum—ten grains to one ounce,—and a piece of linen moistened in the solution was kept constantly applied. This plan was continued, with gradual abatement of the symptoms, for a month; a weaker solution was then substituted, and at the end of six weeks from the commencement of the treatment the eye had recovered with a perfectly bright, healthy cornea.

At the termination of another fortnight the child was again placed under the influence of an anæsthetic, when I pared the edges of the divided lids and brought them together with fine sutures. Good union occurred, the deformity is very slight, and the lid perfectly performs its function.

I may add that during the early part of the treatment the other eye was kept carefully closed with strapping so as to prevent any risk of inoculation.

To some it may seem that this rather novel proceeding was of too heroic and severe a character, but it at least had the merit of success. Every case of gonorrhœal ophthalmia, the result of direct contagion, that has come either under my care or my observation has been so uniformly attended with loss of the affected eye that I should certainly adopt a similar proceeding on any future occasion, and I beg to commend it to the attention of the profession. It seems to fulfil every indication: it relieves the immediate tension, and the strangulation with which the cornea is threatened; it permits the free escape of the matter, and enables the surgeon to make a thorough use of caustic and astringent remedies; while the slight subsequent scar on the lid is a small price to pay for a rescued eye.

[1] Read at the Ophthalmic Congress at Amsterdam in 1879.

CASE OF

SEVERE LACERATED WOUND OF RIGHT FOREARM TREATED BY DRY AND INFREQUENT DRESSING.

BY EDWARD POTTS, M.R.C.S. ENG.

ON October 11th last I was asked to see a man who had just sustained a severe injury to his right forearm whilst at work. On examination I found the integument torn up from the front of the limb, from the level of the wrist to within two inches of the elbow-joint. The flap was left attached above by a broad base corresponding to the whole width of the forearm. The superficial flexor muscles, with the lower part of the radial artery, where it lies between the flexor carpi radialis and supinator longus invested by the deep fascia, were exposed, but uninjured. There was very little hæmorrhage from a few superficial veins; this was readily controlled by torsion and pressure. The flap was brought down, and its edges accurately adapted by five silver sutures loosely applied. A large square piece of perfectly dry lint was laid over the wound, and the part was enveloped in a thick padding of cotton-wool. A straight wooden splint was then applied to back of forearm, and the whole carefully bandaged; the limb slung in an easy position, with the hand resting over middle third of sternum.

The patient had rather a restless night on the one succeeding the injury, but inasmuch as he complained of little pain, and there was an entire absence of traumatic pyrexia, the dressings were not removed until Oct. 17th—six days after the receipt of the injury. Then I found the lint slightly stained with blood and healthy pus. Hand slightly

œdematous. No bagging, and very little pain on pressure. I redressed wound as at first; more thickly padded the hand with cotton-wool, and placed, in addition to the splint on back of arm, another one of gutta-percha over the dressing on flexor aspect.

On Oct. 20th I removed sutures and renewed the dressing. On making gentle but steady pressure on the flap from above downwards, about three teaspoonfuls of healthy pus escaped from margins of wound. Splints readjusted as before.

Oct. 23rd.—Dressing again renewed. Flap somewhat retracted, leaving small granulating surface at lower end of wound, otherwise doing well. Patient is anxious to know when he may go to work. Very little discharge. Union between flap and subjacent tissues seems tolerably firm.

27th.—Redressed as before. Very little discharge. Discontinued use of gutta-percha splint.

I consider that the man will be able to resume his employment in ten days or a fortnight.

Remarks.—I have had the opportunity of seeing many cases of severe mechanical injury, involving great laceration of soft parts, fractures of important bones, and injuries to nerve-centres, treated by means of "dry and infrequent dressings" by Mr. Gamgee in the wards of the Queen's Hospital, Birmingham; and I must say I was astonished at the almost unvarying success that attended this manner of treatment. I had not, however, before had the opportunity on my own responsibility of treating a case of any great severity by this method. I determined therefore—bearing in mind that the three great factors in the process of wound healing were "rest, position, and pressure"—to give the "dry and infrequent dressing" a thorough trial; and I think the result attained in this case would be sufficient to satisfy the most enthusiastic votaries of antiseptic surgery, and to justify us in regarding the "dry and infrequent method" as a step in the right direction and worthy of trial. From its simplicity, and the inexpensiveness of the materials, it is undoubtedly the dressing *par excellence* for the general practitioner. There is an entire absence in this method of any elaborate detail; we need only remember that, in order that the healing process may proceed satisfactorily, the injured part must be placed under those conditions which will insure the most perfect rest. Moisture favours the suppurative and delays the healing process: hence let our dressings be dry. We cannot renew our lint, cotton-wool, bandages, splints, or any other material generally used, without a disturbance of rest: hence let our dressings be infrequent. We must not, however, lose sight of the fact that general principles must ever guide us; that while no single method of treatment is universally applicable to all wounds, yet the "dry and infrequent method" places an injured part under the most favourable condition, and so best assists the natural reparative process.

Newcastle-on-Tyne.

A CASE OF CHRONIC DUODENITIS; ASCITES; JAUNDICE.

BY BERNARD KELLY, M.D.

THE notes of the following case may be of interest as affording an instance of a somewhat rare cause of icterus, the symptoms of which, so far as they may lead to a correct diagnosis, must necessarily be obscure during life.

Margaret S——, aged forty-five, sent for me on March 28th last. The patient had been married about twenty-three years, but never bore a child, and had passed the critical period some two years previously. She had just left hospital, where she spent seven or eight weeks. The following condition presented itself. Her body was emaciated to an extreme degree and intensely jaundiced; the abdomen tense from ascitic fluid. The bowels were much relaxed, the fæces exhibiting the usual *putty-like* appearance characteristic of the disease. The pulse was 100, and never sank below this point till the final issue, a fact which proves conclusively that cholæmia does not always succeed in retarding the heart's action. The urine was scanty and deeply tinged with bile, so much so as almost to resemble porter. She complained of persistent and deep-seated pain in the right hypochondrium. There was slight œdema of the feet and ankles, notwithstanding the patient had been long and necessarily confined to the recumbent position. The appetite was all but abolished; but at no time had there been either nausea or vomiting, neither was there coloured vision, nor hyperæsthesia, although she had some time previously to my seeing her suffered much from the latter symptom, showing that in the long run the nervous system may lose much of its natural sensibility, or may adapt itself, so to speak, to the morbid conditions that surround it. Although the entire history and aspect of the case precluded even the shadow of a favourable prognosis, I deemed it my duty, nevertheless, to render the few days that remained to her of life as comfortable as possible, while giving her the benefit of any chance that might be derived from the only treatment which seemed rationally predicated. With this view the following mixture was ordered:—Bicarbonate of potash half an ounce, spirits of chloroform an ounce, tincture of opium a drachm, liquid taraxicum, concentrated, an ounce and a half, water to twelve ounces; a tablespoonful to be taken every two hours. The patient took well to the medicine, saying it warmed her (I should have mentioned that she experienced an irksome feeling of coldness), but, apart from this, the only sensible effect produced by its use was a slight alleviation of the hepatic pain; the bowels also were not quite so relaxed. The urine continued scanty, and saturated with bile. I visited the patient regularly every day till the 8th of April, when, observing no material improvement in her general condition, I omitted the potash, and substituted quinine in the proportion of twenty-four grains and iodide of potassium a drachm and a half, the other ingredients to be left unaltered. The distension of the abdomen being very great and impeding the respiration, I strenuously insisted upon the necessity of tapping, but all to no avail, as, to use her own words, "she knew she would die," and it would be only adding unnecessary torture to her last moments. The fatal issue was not long protracted, as she died on April 11th.

A partial necropsy was obtained by special favour, and was made three days subsequently. The abdomen contained about a gallon and a half of serous fluid of the same colour and consistence as the urine. The stomach and intestines, large and small, were quite healthy, empty, and distended with gas. The liver was enlarged and of a greyish slate colour; but otherwise presented nothing morbid or abnormal. The gall-bladder was enlarged and filled with fluid bile, but contained no calculi. The duodenum was greatly thickened and its tube much diminished, especially in its middle or perpendicular portion—the result of chronic inflammation—thereby completely obstructing the orifice of the ductus choledochus, and preventing the consequent passage of bile into the intestine.

Had the real state of things, as shown by post-mortem examination, been recognised before death, cholecystotomy might have been performed to some advantage, perhaps in prolonging the patient's life, by giving free exit to the long pent-up bile and relieving the passive congestion of the liver. In the present case, it could have been very easily accomplished, owing to the great turgescence of the gall-bladder, which extended considerably below the margin of the liver. The ascitic fluid could also have been evacuated in the same operation, thereby achieving a twofold object at a single stroke.

Rotherhithe.

RUPTURE OF FALLOPIAN TUBE.[1]

BY C. J. RAYLEY OWEN, M.R.C.S., &c.,
LATELY RESIDENT OBSTETRIC OFFICER, ST. MARY'S HOSPITAL.

MARY D—— was taken ill on January 8th, 1880. She was thirty-nine years of age; married twenty years; had four children, no miscarriages. Youngest child is a year and three-quarters old. She had rheumatic fever when young, but heart was not affected. Catamenia began at fourteen, natural, every four weeks, lately every three weeks. She has "put on" a good deal of fat latterly, and her strength was severely taxed in the middle of December from nursing a sick child. Her last period in the beginning of December was natural, but ever since she has suffered much from pains in the back and stomach. On January 7th she thought her period had come on, but as there was only a slight discoloration of her diaper, concluded it had passed off.

[1] Paper read and specimen exhibited before the Harveian Society, Jan. 15th, 1880.

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On the morning of January 8th she had been reaching about a good deal, when she suddenly felt "something give" in her right side, and almost immediately fainted away. (This was only found out after death.)

In the afternoon, when my father first saw her, she had been very sick, and only recovered from one faint to go into another. In the intervals she was quite sensible, and complained of severe pain in right iliac and hypochondriac regions, not increased by pressure. Face and hands cold and moist. No pulse in radial, carotid, or temporal arteries. Tongue clean, pale, and flabby; heart's action intensified; no bruit; chest normal, also abdomen. He conjectured some small vessel had given way, but where it was impossible to say.

Ordinary remedies for collapse were ordered, with ammonia and champagne. At midnight, when I saw her, she had rallied from her collapse; pain in right side much less, not increased by pressure. Respiration 36, very "sighing;" temperature 96·6° in mouth. After free stimulation, radial was felt to be beating at 120. This condition lasted till six A.M. on the 9th, when nutrient enemata were ordered, as sickness had returned, but she became unconscious about mid-day, and died soon after.

A post-mortem was kindly allowed, and was made twenty-six hours after death by Mr. Marsh, of St. Mary's Hospital. The body was warm; rigor mortis slight; much adipose tissue on abdomen. Lungs and heart healthy, no fat or degeneration about latter, which was small. On opening abdomen it was found to be full of thin pale blood; organs healthy, but very pale; from the right side a quart of thick black clots were removed. While about to examine the uterus it was found that both ovaries were small, cystic, and atrophied. The left Fallopian tube was small; in the right one, a quarter of an inch from the uterus, an opening of the size of a horse-bean was seen, from which a little fibrinous material was oozing; the tube was enlarged throughout its entire length to the size of a pipe-stem, but where the opening existed it was as large as a No. 10 catheter. The uterus was somewhat stained and congested near the tube, while the uterine mucous membrane was much thickened; the opening was in only the upper aspect of the tube. Careful examination failed to detect any embryo.

Remarks.—In this fortunately rare case the entire absence of peritonitis is remarkable. Could it be due to the fact that the patient was so exhausted by hæmorrhage that there was not sufficient strength to set up inflammation? The length of time that the patient lived showed that the hæmorrhage was not proceeding from a large vessel. The most plausible theory of the rupture seems to be that the patient caught cold at her period in December; that inflammation of the tube followed, possibly ending in abscess; and that the over-exertion brought about the fatal result. It is somewhat a curious fact that before commencing the autopsy Mr. Marsh said almost the last private examination he had made was on the body of a young unmarried lady, who had caught cold at her period and died from rupture of the Fallopian tube; and here also there was no peritonitis. Although he had made some thousands of examinations, he had never seen a similar case.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tam aliorum, tam proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

TWO CASES OF BONY ANCHYLOSIS OF THE ELBOW-JOINT TREATED BY SUBCUTANEOUS OSTEOTOMY OF THE LOWER END OF THE HUMERUS; UNION IN A USEFUL POSITION.

(Under the care of Mr. HAYNES WALTON.)

FOR the following report we are indebted to Mr. Henry Juler, F.R.C.S., demonstrator of anatomy at the hospital, late resident registrar:—

CASE 1.—E. S——, a domestic servant-girl, aged eighteen, ignited her dress, and her left arm was severely burned thereby. The arm did not heal for a year, and all the time it was kept straight. No details of importance respecting the nature and extent of the lesions could be obtained. For four years from the period of the accident she sought relief at St. Mary's Hospital on account of the great inconvenience and uselessness of the straight and stiff limb. Cicatrices were scattered over the limb from the shoulder to the wrist; and opposite the ulna the skin was replaced by cicatricial material. The elbow-joint was destroyed, and there was complete anchylosis. The limb was quite straight.

The patient being in good health, Mr. Walton decided on performing subcutaneous osteotomy, and endeavouring to get the limb in a bent and fixed position.

On February 1st the operation was done in the following manner:—On the outside of the arm, about the centre of the humerus and two inches above what was supposed to be the position of the outer condyle, a short vertical cut was made with a small scalpel through the soft parts down to the bone. A small saw (Adams's) was introduced in such a way as to insert the blade between periosteum and the bone, and the entire thickness of the bone was sawn through with as little disturbance as possible of the adherent parts, the finishing strokes being done slowly. A gush of venous hæmorrhage, which ensued when the saw was withdrawn, was readily arrested on the application of a small compress and plaster. The limb was bent only enough to give the assurance of the bone having been divided. In that slightly flexed state a splint was applied long enough to reach from the armpit to the wrist, and so bandaged as to insure immobility. It was bent a little more a week later, and at the end of three weeks it was placed at a right angle.

On March 1st there seemed to be very decided firmness of the limb. The patient would no longer stay in the hospital. She, however, returned three weeks later to have a photograph taken, as she promised. It was clear that bony union had been accomplished. She had cast aside her splint, and was much pleased with her treatment, and said that the arm was almost as useful as the other.

CASE 2.—An epileptic and delicate girl, aged seventeen, who had fallen into the fire three times, was in the hospital three years ago with scarlet fever, when her left elbow-joint suppurated. She returned with the arm anchylosed at an angle of 160°. The wrist was in extreme pronation and fixed. There were several scars on both arms from burns, and the left had in addition marks of incisions about the position of the elbow-joint. Mr. Haynes Walton decided on operating, and the preliminary steps were executed as in the first case, and the operation differed only in the sawing being discontinued before the bone was quite cut through, and what remained uncut being broken. Venous hæmorrhage was active till pressure was applied. The limb was bent at an angle of 90° and a long splint applied.

On the seventeenth day a very severe epileptic fit occurred. The clonic arm spasm disturbed the ends of the bones, hæmorrhage ensued, profuse suppuration followed, together with slight sloughing of the edges of the tegumentary wound. All this was accompanied by severe constitutional disturbance and threatened death of the patient. Mr. Walton thought it better not to alter the angle of the arm, and he did not, but allowed it to remain as originally placed all through. The outer wound healed very slowly, but constitutional recovery was quick. At the end of five weeks it was certain that anchylosis had set in. At the end of the eighth week the splint was left off, and merely a bandage was applied. The bones were now firmly knit in true anchylosis, and a photograph having been taken the girl left the hospital. She could feed herself with this arm.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

SEVERE WOUND OF GLOBE ON CILIARY REGION; RECOVERY WITH PERFECT VISION.

(Under the care of Mr. MACNAMARA.)

THE following case is reported by Mr. J. G. Mackinlay, registrar:—

F. B——, aged twenty, a barmaid, was opening a bottle of soda-water on the night of July 15th last, when the bottle burst and the left eye was struck by a piece of the broken glass. A doctor was sent for, and attended to the case the same night and the following day. On the 17th the patient applied to the hospital, and was admitted as an in-patient under Mr. Macnamara's care.

The condition of the left eye was as follows:—A wound

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through the conjunctiva and sclerotic a quarter of an inch in length, horizontal in direction, and commencing at the outer margin of the cornea just at the equator; the wound gaped, and the ciliary body and choroid were exposed and protruding into the wound; there was also a smaller wound, a line in length, extending downwards and slightly outwards from the corneal margin, just at the spot where the larger injury began. The smaller wound was not so deep as the other; the globe was somewhat injected at its outer half, and the patient stated that she had pain at times in the eye. Mr. Macnamara ordered pad and bandage to be applied.

Next day the pain was less; the pad and bandage were continued. The girl had increased pain during the night of the 19th, and Mr. Martin, the house-surgeon, gave a dose of chloral hydrate. On the following night the pain was more severe, and was not much relieved by chloral draught. At 4 AM. on the 21st Mr. Martin gave a hypodermic injection of morphia—one-third of a grain. This gave great ease. The lower wound was healing, and the larger one did not gape so much. On the 24th lachrymation had ceased from the right eye, and there was scarcely any from the left. There was a little injection of globe in the neighbourhood of the injury. The lower wound was quite healed, and the upper one was closing up well. There was no pain or photophobia. The patient was discharged.

On Oct. 22nd (fourteen weeks after the accident) the patient visited hospital. There was a small triangular patch, of a dusky yellow colour, and slightly vascular at the seat of injury, its base towards the cornea, and extending a little over its edge. The patient stated that she had no discomfort, and that the sight of the eye was as good as ever. Vision was tested, and Jaeger No. 1 was read rapidly at normal distance.

LAMBETH INFIRMARY.

CONGENITAL MALPOSITION OF HEART AND ABDOMINAL VISCERA.

(Under the care of Dr. ROBERT H. LLOYD.)

THE following case, though not very uncommon, is still of not such frequent occurrence but that its perusal may be of interest:—

T. L——, aged twenty-four, a coalheaver, was admitted into this infirmary on June 25th, 1878, suffering from secondary syphilis, and during the course of treatment the following abnormal position of the heart, and presumably of the abdominal viscera, was observed. The heart's apex was seen to beat between the seventh and eighth right ribs, about one inch and a half below, and external to the right nipple. The mitral sounds were heard most distinctly around that spot, and the aortic sounds over the sternum on a level with the third costal cartilages. An area of dulness corresponding to the outline of the liver lay in the left hypochondrium and the right hypochondrium was occupied by a resonant space presumed to be the stomach. The right testicle was lower than the left one.

The patient's previous history was to the effect that he had enjoyed good health from the age of twelve, but he had been told that up to that period he was a sickly child. He had three brothers and a sister, all older than himself, and enjoying good health.

Dr. Wodehouse of Reading, who also saw the patient, stated that he once had a similar case under his care at the dispensary at Reading.

STRATFORD-ON-AVON INFIRMARY.

EXTENSIVE WOUND OF OUTER SIDE OF THIGH BY THE HORN OF A BULL.

(Under the care of Mr. LUPTON.)

LEVI B——, aged forty-five, was admitted on Jan. 15th, 1879, with an extensive laceration of the skin and fascia on the outer side of the left thigh. It was a ⊢-shaped wound, the long arm extending from about two inches below the great trochanter some seven inches down the thigh, and laying bare the vastus externus; the short arm ran upwards at right angles to the long one across the front of the thigh for about four inches.

The wound was brought together by sutures, and carbolised lint was applied; but it did not do well, and by Jan. 24th was in a low, unhealthy, stinking state. The man was ordered six ounces of port wine daily. From this time the wound improved, and on Feb. 2nd the port wine was reduced to two ounces, and a pint and a half of porter was ordered. The wound had now all but healed. It should be noted that this was a poor half-witted man, who for some time regularly tore off his dressings, and kicked them down to the foot of the bed; not being fit for anything, he was set to look after a savage bull.

FRACTURED SPINE.

(Under the care of Mr. RICE.)

THOMAS B—— was admitted on Oct. 31st, 1878. He was helping to place a large tree on a timber carriage when it fell back, caught him along the line of the clavicles, and forcing him backwards, fairly doubled him up. His spine was fractured, apparently in two places, at about the eleventh dorsal and the second lumbar vertebræ. The line of sensation on admission corresponded to the distribution of ilio-inguinal nerve on each side; below this there was none. He had some idea when a motion was about to pass, but not the slightest control over the rectum; the urine dribbled away. After some weeks the urine was forcibly and spasmodically expelled, being projected to a great distance, and priapism occurred. This state lasted nearly a fortnight. He was subsequently able to pass urine by voluntary effort, but a puriform residuum had to be occasionally drawn off by catheter.

This case terminated fatally in November, 1879.

JERVIS STREET HOSPITAL, DUBLIN.

CASE OF INTRAVENOUS INJECTION OF MILK.

(Under the care of Dr. MELDON.)

FOR the following interesting notes we are indebted to Mr. John Cashin, L.R.C.S.I., resident-surgeon:—

Michael M——, aged forty, was admitted on Dec. 4th, 1879. About two years before symptoms of phthisis commenced, and gradually increased until May last, when his friends were in daily expectation of his death. Dr. Meldon injected three and a half ounces of milk into his veins. The operation, which was not followed by any obstruction of respiration, gave him almost immediate relief from the feeling of weakness from which he suffered. His appetite returned; he slept well, and in a few days he was able to sit up. Soon after he was sent to the convalescent hospital, where he continued to improve, and in about six weeks was able to resume his occupation of a pawnbroker's assistant. During the summer months he improved very much, and increased considerably in weight. In November last he was attacked with pneumonia, after which he had a constant cough. The other symptoms of phthisis also returned, and increased until, unable to continue his employment, he sought admission into the hospital.

On admission both lungs were extensively diseased, and there was constant diarrhœa, which had reduced the patient to an almost moribund condition. His cough was most distressing, and he was unable to take any nourishment. As all efforts to improve his condition were of no avail, Dr. Meldon, yielding to his patient's own urgent entreaty, consented to repeat the operation of injecting milk into the veins.

On the 13th of January, assisted by Drs. Cranny, Stoker, and Kelly, and in the presence of a large class of students, Dr. Meldon injected three and a half ounces of goat's milk, at a temperature of 100°, into one of the veins of the right arm. The milk, as usual, was rendered alkaline by the addition of carbonate of ammonia, and the goat was milked at the bedside of the patient. During the operation the man complained of pain and coldness in his back, but he stated he did not feel any difficulty in breathing or pain in the head. Soon after the operation the temperature rose from 99° to 104°; his breathing for a few hours was somewhat hurried, but there was no obstruction to respiration, as in many of the previous cases. The pain in the back and the coldness remained for some hours, but the patient slept well that night, and awoke next morning greatly improved in spirits and feeling much stronger. The diarrhœa was, as in all former cases, immediately checked by the operation. For some days he made steady progress towards recovery—his appetite increased, and his cough diminished.

Dr. MELDON, in his remarks to the students, said that the operation of intravenous injectment of milk had been

received in Europe with very little encouragement, and even in New York, where there was every promise of the operation receiving a fair trial, it seemed to have fallen into disrepute. The present was the tenth case in which Dr. Meldon had performed the operation, and with a result that made him most hopeful of its success when performed in suitable cases and with proper precautions. As yet he had only resorted to it in cases where the patient's hours were already numbered. In all these cases life had been considerably prolonged, and in four the patients had been completely cured by the operation. The operation was quite free from danger if one or two points were attended to, besides those which had to be looked to in every case of transfusion. The two points which were peculiar to the transfusion of milk were, that care should be taken that the milk was alkaline, and that only a small quantity at a time, four and a half ounces being the largest amount that should be injected. Lately a good deal has been written against the operation. The opponents of the procedure might be classed under three heads. First, those who say it is *theoretically* wrong. Second, those who argue from experiments on lower animals, and, thirdly, those who believe the globules of the milk are two large to pass through capillaries. The first and last of these may be met by pointing to the fact that several cases have been successful, and in no case where the operation has been performed with proper care with regard to the two special points which Dr. Meldon mentioned have injurious results followed.

With regard to the comparative experiments on dogs, the great error had been that healthy dogs had been selected, and, comparatively speaking, an enormous quantity of milk had been injected.

Dr. Meldon stated that he had no doubt if a healthy country patient was selected for the operation, and say forty ounces of milk injected into his veins, the result would be almost necessarily fatal. This really had been the kind of experiment on dogs, and it was not surprising that the conclusions drawn from these experiments should be so unfavourable.

The cases which Dr. Meldon had cured were all cases of pernicious anæmia, and he stated he could easily understand how in that disease a small quantity of corpuscule-supplying fluid might alter the condition of the blood, and thereby effect a cure.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Estimation of Uric Acid by its reducing Action upon the Ammoniated Cupric Test.—The "Nietze-Leitner" Endoscope.

THE ordinary meeting of this Society was held on March 23rd, J. E. Erichsen, F.R.S., Esq., President, in the chair. A paper by Dr. Pavy, dealing with the quantitative determination of uric acid in the urine, was read, and the process demonstrated by the author. After this Sir H. Thompson described and demonstrated the application of the "Nietze-Leitner" Endoscope.

The following is an abstract of the paper on the Estimation of Uric Acid by its reducing Action upon the Ammoniated Cupric Test, by Dr. F. W. PAVY, F.R.S. The author first refers to the importance of being able to determine readily and with precision the amount of uric acid voided for the purpose of studying the conditions which tell favourably and unfavourably upon the uric-acid diathesis, and as a guide to treatment during the management of a case in which the uric-acid deposit occurs. The old methods of estimating uric acid could not be spoken of as meeting the requirements of the medical practitioner either as regards facility of application or precision. The method which the author desired to bring before the notice of the Society is founded upon the reducing action which uric acid, like sugar, exerts upon the oxide of copper. The ordinary form of copper test is most susceptible of application to the purpose, but the ammoniated cupric liquid, which the author has recently introduced[1] for the quantitative determination of sugar is perfectly available. With this test the reduced oxide, instead of falling as a precipitate, is held in solution by ammonia, and a simple decoloration of the liquid occurs as the reduction proceeds. The mode of preparation and employment of the test having been described, it is stated that the results obtained from observations conducted with known quantities of pure uric acid so closely harmonised with the expression that three atoms of oxide of copper are reduced by one atom of uric acid, as to justify this formula being adopted as the basis of calculation for the process. For the determination of the uric acid in a specimen of urine the reducing power is taken before and after treatment with acetate of lead. The first or total reducing action is in part due to uric acid and in part to the small amount of sugar which urine naturally contains. The addition of acetate of lead effects a precipitation of the uric acid, and the reducing power now obtained represents the reducing power of the urine, minus that of the uric acid it contained. By the difference between the two determinations the amount of uric acid is ascertained. The mode of calculation is given. Results are furnished showing the precision with which known quantities of uric acid added to urine are revealed by the process. To be certain that what is taken as expressing uric acid is in reality due solely to the presence of uric acid, the process was checked against the actual collection and subsequent determination of the uric acid. Results are first given to show that the collection and subsequent determination of uric acid can be carried out in a manner to afford reliable information, and then the two processes, the determination from the difference in the reducing power before and after precipitation with acetate of lead, and by actual separation of the uric acid, and its subsequent estimation, were applied to various specimens of urine, and the result compared. The figures obtained present a close accord, and justify confidence being placed in the results derived from the process brought forward. The author thus concludes his communication:—"This completes what I have to say about the process I have described for the estimation of uric acid. The next matter to deal with is the results obtained by its application to the urine under various conditions of health and disease. This is a matter of some magnitude which I must reserve for the subject of a future communication, but I may here state that according to the observations I have conducted, the figures that have been hitherto given as representing the amount of uric acid present will have to undergo considerable alteration." Dr. Pavy then exhibited the process above described to the Society, and further added some interesting remarks upon the estimation of the acidity of the urine by means of phenol-phthaline, a test which he also exhibited. He said that he had made comparative observations upon the amount of uric acid and the acidity, but his conclusions were not numerous enough for generalisation.

Sir HENRY THOMPSON exhibited a specimen of the "Nietze-Leitner" Endoscope. He commenced by observing that before giving a practical illustration of the new endoscope he would say a few words as to its origin and history. Endoscopy was a product of the present century. Bozzini of Frankfurt made the first attempt in 1805, and created a considerable interest in the subject. The next step was made by Tégalas of Strasburg in 1826; he applied it chiefly to the urethra and bladder. Some twenty years afterwards Cazenave in Paris, and Avery in London, experimented independently of each other. Avery constructed an instrument for examining the larynx, which has been but little modified even to the present day. He (Sir H. Thompson) had witnessed Avery's examination of the urethra in 1851. Meantime, Désormeaux of Paris carried urethroscopy further by the use of a lamp and an arrangement of mirrors for reflecting its light. For this he received a portion of the Argenteuil Prize in 1853; and obtaining subsequently the Clinique at Hôpital Necker, brought out a considerable work on "Endoscopy" in 1865. Cruise of Dublin used this apparatus, but adapted to it a stronger light. But some ten or twelve years ago Dr. Brucke of Breslau conceived the idea of carrying a platinum wire, maintained at a white heat by the galvanic current and cooled by a current of cold water, into the rectum, believing that he might then probably illuminate the interior of the abdomen, or at all events throw light enough into the bladder to enable him to see its contents through a

[1] Proceedings of the Royal Society, vol. xxviii., p. 280, and vol. xxix., p. 272.

tube introduced there. He was, however, doomed to disappointment, the light being insufficient to penetrate the tissues. About three years ago a modification of this principle suggested itself to the mind of Dr. Nietze of Vienna, who was fortunate enough to find in Mr. Leitner, the very ingenious instrument maker of that city, a co-operator who spared neither time nor expense to realise the idea. This he has done by producing exceedingly delicate apparatus adapted to enter each of the different cavities of the body, containing the galvanic light described and the water-circulating apparatus so that the wire heated to whiteness can be carried with perfect safety into the urethra and bladder, the rectum, the back of the pharynx and nasal cavities, and even into the stomach itself. Sir Henry Thompson then demonstrated the applicability of this apparatus to the exploration of the urethra and bladder on the living body of a patient, who was there for the purpose. Finally he stated that it was not to be supposed that the endoscope should be in any case lightly resorted to. The employment of such instruments, as he had shown, necessarily involved a certain amount of irritation in the organs, and nothing could be gained by such observations except from rare and particularly obscure cases. Thus, he could not conceive a case of lithotrity in which it could be useful: the "last fragment" of which so much had been often said and which was formerly a bugbear, if not an opprobrium to lithotrity, was perfectly amenable to the treatment of modern instruments, and if a surgeon felt himself unable to deal with it, he should not attempt lithotrity at all. The Nietze-Leitner endoscope was no more wanted for stricture, retention, or stone than were the previous endoscopes; if the surgeon had skilful hands, the endoscope was useless in these conditions; if he had not skilful hands, no endoscope could make him a competent surgeon. But the new instrument, with its vastly greater power of light, might do what other endoscopes would fail to do—namely, determine the nature of a foreign body such as we find occasionally introduced from without into the bladder, cases no doubt of extreme rarity; and it might also help us to identify the existence of a villous growth in the bladder, which was not to be accomplished by any known mechanical means. Great difficulties, however, surrounded an examination in such circumstances, for it is essential, in order to see at all clearly with an endoscope, that the bladder should be partially distended with clear urine, clear water, or air, the last-named being somewhat preferable. But it must be confessed that, in conditions of diseased bladder, the urine was generally cloudy from the presence of muco-pus and blood, and that the very employment of the instrument tended still further to produce thickness in the urine. Hence it is necessary in these cases to wash out the cavity completely, leave about four ounces of pure water within, and at once introduce the endoscope tube with the utmost care. Practically speaking, the difficulty of attaining the desired conditions was sometimes considerable. Sir Henry had had the opportunity through the kindness of Professor Dittel of Vienna, assisted by Dr. Nietze and Mr. Leitner themselves, of examining several cases at the Vienna Hospital last autumn, and had had the opportunity of testing his own instrument now present here in London. He was extremely indebted to Mr. Weiss, who was present, for his intelligent and careful management of the apparatus, since it was essential for this, as well as its maintenance in good working order, that it should be under the care of a person well versed in the use of galvanic apparatus and competent to adjust, or repair, if necessary, the very delicate details which formed essential parts of this somewhat complicated but very complete instrument.

MEDICAL SOCIETY OF LONDON.

Renal and Hepatic Colic—Impaction of Gall-stone in Ileum.—Genu Valgum treated by Tenotomy and Mechanical Appliances.—Cerebro-spinal Syphilis.

AT the meeting on March 22nd, Mr. F. J. Gant, President, in the chair,

Dr. DE HAVILLAND HALL communicated for Dr. F. A. Hill notes of a case of Renal and Hepatic Colic. The patient, a stout woman aged fifty-eight, while riding in a cab was seized with severe bilious vomiting and became collapsed. No jaundice appeared. The fourth day (Jan. 20th) after the attack she had three rigors and two severe attacks of spasmodic pain in the cardiac region. On Jan. 27th she had a violent attack of pain in the left lumbar and inguinal region with rigors; and a similar attack on Feb. 2nd. On April 16th she had extreme pain all over the abdomen with constant vomiting, which became stercoraceous, and death ensued. A concretion the size of a hen's egg blocked the ileum two feet from its termination; a fistulous communication existed between the collapsed gall-bladder and the duodenum. Both kidneys were studded with small cysts, and in the pelvis of the left organ a calculus was lodged.

Mr. SAMUEL BENTON exhibited a severe case of Genu Valgum cured by instrumental means and tenotomy. The patient was a boy twelve years of age, who came under notice in July, 1879. When the bones were put close together the malleoli were eight and a quarter inches apart; the left leg being more bowed than the other. In August the biceps tendon of each leg was divided subcutaneously and an instrument suggested by Mr. Baker was applied. At the end of two months there was an interval of only two inches between the malleoli, the left leg not being quite straight, owing to the extension of the external lateral ligament of the knee-joint. In January the author divided this ligament, and the instrument was again applied for a month. The legs are now perfectly straight. Although the author was not opposed to Ogston's operation, he believed that in many cases a better result can be obtained by more simple means. Cutting into a joint and filling it with bone dust was an operation attended with more risk than simple subcutaneous tenotomy. He urged great care in the selection and supervision of the instrument applied.—The PRESIDENT said operations for this deformity were now common, and numerous successful results had been published; but he feared there were others unheard-of where death had occurred, or where recovery had been protracted. The procedure just recorded was certainly safer than that of removal of the internal condyles.—Sir JOSEPH FAYRER complimented Mr. Benton on his success, and expressed his opinion as to the value of this simple operation.—Mr. PEARCE GOULD said that having lately brought before the Society a successful case of excision of the inner condyles for this complaint, he wished to state that in a similar case now under his care suppuration had taken place, with slow recovery, leaving anchylosis of the joint. He intended to break down the adhesions, and expected a fair result. He exhibited another case, where there was a distance of sixteen inches between the malleoli. There might be some danger in dividing the nerve along with the muscle in this operation.—Mr. BAKER testified to the nature and extent of the deformity in Mr. Benton's case, and considered that in testing the straightness of the leg care should be taken to keep the patella uppermost. He had never seen the nerve divided.

Dr. DRYSDALE then read a paper on Cerebro-Spinal Syphilis. After a brief survey of the history of the subject he proceeded to point out the various forms into which cerebro-spinal syphilis was divided. In some pain was the principal feature; in others the symptoms were those of cerebral congestion; in others loss of intellect was the prominent fact; in some epilepsy predominates; in others paralysis. Syphilitic headache is deep and internal in character. The congestive form is accompanied by vertigo, low spirits, dim sight, buzzing in the ears, and lowered intelligence. More than three-fourths of all cases of epilepsy supervening for the first time in adults were attributable to syphilis; paralysis often follows; the convulsion may be partial. Aphasia conjoined with right hemiplegia, or without paralysis, may occur. Dementia, melancholia, and mania, and an affection closely resembling general paralysis of the insane might be produced by syphilis. The cranial nerves most affected are the third, the facial, and the hypoglossal, then the optic and auditory; the first and fifth rarely, and, least of all, the vagus and spinal accessory. Ptosis, mydriasis, and strabismus, with headache, were indications of cerebral syphilis; complete amaurosis was not rare. Labio-glosso-laryngeal paralysis, ataxia, and paraplegia were occasionally due to syphilis.—Dr. DE H. HALL asked whether the author had included embolism in the cases of right hemiplegia with aphasia. He mentioned a case of a young woman attacked with epilepsy preceded by paralysis of the right third nerves and of the left facial. Although no direct history could be obtained, he considered

these conditions justified the diagnosis of syphilis.—Dr. C. T. WILLIAMS thought the author had tended to make the area of syphilis too large. He referred to a case of paraplegia, with lung symptoms, where a history of syphilis twelve years previously directed the diagnosis, borne out by the satisfactory result of treatment.—Dr. DEWAR mentioned a case of epilepsy with frequent spasms of the arms and legs, in which bromide of potassium had failed, but where a week's course of mercury was followed by cure.—Dr. GILBART SMITH deprecated attributing to syphilis all cases that showed rapid improvement under iodide of potassium. He mentioned a case (undoubtedly syphilitic) of incomplete hemiplegia, with aphasia and retinal changes, which quickly disappeared under the iodide. On being made an out-patient, the symptoms returned, with the addition of epileptiform attacks, but was again successfully treated by the same drug.—Dr. DRYSDALE, in reply, said that the cases of aphasia due to syphilis were those in which no cardiac affection was present, but evidences of syphilis were. The statistics of epilepsy he had given were those of Fournier, and he himself believed that epilepsy arising in adult life was probably due to syphilis. He wished to lay stress on the importance of specific treatment in doubtful cases.

THE DENTISTS ACT OF 1878.

WE understand that the subjoined memorial has been presented to the Executive Committee of the General Medical Council by the Association of Surgeons practising Dental Surgery:—

To the President and Council of the General Medical Council.

The Association of Surgeons practising Dental Surgery beg respectfully to ask your consideration of the Dentists Act of 1878, with a view to its amendment or repeal. We do so more especially at this time, as there are Medical Amendment Acts before Parliament.

We beg to point out that, as indicated in the preamble of the Act, it was intended to make provision for the registration of persons "specially qualified" to practise as dentists. That this result has not been obtained may be inferred from the fact that more than five thousand persons have been registered as dentists, whilst the highest estimate formed by those who were interested in the passing of the Dentists Act was, that not more than two thousand persons could be registered in Great Britain and Ireland to practise Dentistry. There can therefore be no doubt that a very large proportion of the persons registered do not possess the qualifications indicated in the preamble of the Act, and therefore that the registration is deceptive.

This result is due to the wording of Clause 6 of the Dentists Act, in which it is stated that "any person who (*c*) is at the passing of this Act *bonâ fide* engaged in the practice of dentistry or dental surgery . . . . shall be entitled to be registered under this Act." No interpretation of the terms "Dentistry or Dental Surgery" having been given, each person claiming registration has interpreted these words after his own fashion, and consequently many persons have been placed on the Dentists' Register without any claim to be "specially qualified."

It is quite true that the General Medical Council by Clause 13 can "cause to be erased from the Dentists' Register any entry which has been incorrectly or fraudulently made;" but until the words alluded to in the preceding section are clearly interpreted, it will be impossible for the General Medical Council to remove the names of persons who may be felt not to be "specially qualified" as Dentists.

Even if the General Medical Council could act under this clause, the delay and difficulties in carrying into operation the action of the clause are so great, that much harm will be done before the desired result can be obtained. For example, the Council of the Royal College of Surgeons in Ireland have represented to the General Medical Council that the name of a certain individual has been removed from the register of dental licentiates of that College on account of his "admitted unprofessional conduct," yet such are the arrangements by which this case can be brought before the General Medical Council and finally settled, that it may occupy more than a year from the present date, the name of such person remaining all this time on the Dentists' Register.

From this it may be seen that a large and important body like the General Medical Council, meeting at rare intervals, and having special and important business of its own to attend to, is not that best qualified to undertake the duties assigned to it by the Dentists Act.

That such was felt to be the case is made manifest by a reference to the Lord President's original Bill (1878), in which by Clause 23 the power was given to the General Medical Council to frame "a scheme for the examination, licensing, and registration of dentists," and such scheme, when approved by the Privy Council, shall have effect as part of this Act, subject to being from time to time revoked, altered, and added to by a subsequent scheme submitted by the General Medical Council to and approved by the Privy Council.

Under this clause it would have been possible for the General Medical Council to have established a board, the regulations of which, under the control of the Privy Council, would have had all the force of the clauses of an Act of Parliament, yet which could be modified according to circumstances.

This was evidently the object the General Medical Council had in view when it passed a resolution on the 4th of July, 1878, to the effect, "that the Council desires to express its wish that the Bill entitled the Dental Practitioners Bill be brought into conformity with the dental clauses of the Lord President's Bill." This recommendation of the General Medical Council has been disregarded, and instead of the Council being authorised to frame a scheme as above shown, the whole work of carrying the Act into operation has been thrown upon the Council itself, which has thereby been made an executive and not a legislative body.

Lastly, the Dentists Act enables certain Doctors of Dentistry to be registered, who can thus use the title of Doctor, a proceeding which will render it *impossible* to carry into effective operation the 24th Clause relating to unregistered persons in the Medical Act, 1858, Amendment Bill 1879, of the Lord President, whereas also the Act does not prohibit persons from assuming the title of surgeon in conjunction with that of dentist by those who do not possess any surgical qualification whatever.

We, therefore, earnestly pray that the General Medical Council will be moved to take such measures with reference to the Medical Amendment Act now before Parliament as will secure a due interpretation of the terms "engaged in the practice of Dentistry or Dental Surgery" made use of in the Dentists Act, Clause 6.

That they will also be pleased to cause to be introduced in Clause 24, line 37, in the Lord President's Bil, after "takes, or uses," the words, either alone or conjunctively with any other word or words, "the designation," &c

Finally, to consider whether it will be for the convenience of the Medical Council, and for the interests of dentists, that Clause 23 of the original Bill of the Lord President should not be made law, and the Dentists Act either repealed or modified accordingly.

Believing that such modifications are absolutely necessary, we earnestly and respectfully request the serious attention of your Council.

BEQUESTS ETC. TO MEDICAL CHARITIES.—MR G. Scorer of Piccadilly bequeathed £500 to the City of London Truss Society, £250 to the Cancer Hospital, £250 to the City of London Hospital for Diseases of the Chest, £200 each to St. George's Hospital, the Brompton Hospital for Consumption, the London Hospital, the Westminster Hospital, and the Charing-cross Hospital, £100 to the Royal National Hospital for Consumption at Ventnor, £100 to St. Mary's Hospital, and £50 to the Hospital for Sick Children; and 1000 guineas each to St. George's Hospital, the Brompton Hospital for Consumption, the London Hospital, the Westminster Hospital, and the Charing-cross Hospital, upon trust to invest the same in Three per Cent. Consols, and apply the annual dividends between fifteen patients of each hospital on leaving. Mr. William Fisher of Sheffield bequeathed £250 each to the Sheffield General Infirmary and the Jessop Hospital for Women, payable within six calendar months after the death of his wife. The Goldsmiths' Company have given another £100 to the Royal National Hospital for Consumption, &c., at Ventnor. The Arbroath Infirmary has become entitled to £500 under the will of the Rev. David R. Louson, minister of the Scotch Church, Carlisle.

THE LANCET.

LONDON: SATURDAY, APRIL 3, 1880.

BY "qualified quacks" we mean persons duly qualified by the possession of a licence or diploma—in some instances of more than one of these legal instruments—to practise medicine, who, nevertheless, so conduct their business as to place themselves, practically, outside the pale of a profession governed by the unwritten, but perfectly well understood, laws of etiquette; and whom it is impossible to distinguish, by the simple fact that their names are to be found in the Medical Register, from the great camp-following of "quacks." It will, doubtless, at first sight appear that the possession of a legal qualification effectually relieves the practitioner from the imputation of quackery, and that being so "qualified" he must enjoy a citizen's liberty to order his life as it shall please him, or as may seem to his personal judgment most promising of success. Would a duly ordained minister of religion—we use the broad term purposely to include the recognised teachers and preachers of every church and sect—be considered free to exercise his calling wholly without regard to the rules of the ecclesiastical body from which he derived his "orders"? Surely the title is morally, if not *legally*, effaced by any act which practically severs connexion with the fount of honour! A peer who could not be summoned to the House of Lords or be received at Court because of some personal or social disability, would be virtually degraded from the ranks of nobility, although his title had not been suppressed by any formal act of the Sovereign, based on the ground of attainder, and he might, therefore, be restored to honour on amendment. The case stands thus with the holders of legal licences to practise medicine who do not conform to the laws and usages of the profession. They may be qualified, but they are not the less on that account quacks or pretenders in so far as they claim to be members of the profession to which the legal documents they undoubtedly possess would, in the absence of personal disability, give them a title to belong.

The doctrine that a man may be qualified in medicine, and yet not practically recognisable as a member of that profession, may, as we have said, strike the reader as a novelty, but it is, in truth, a recognised principle of all other professions except our own, and in regard to no other calling in life is it so necessary for the public welfare that the dogma should be promulgated and made to be generally understood. The barrister may be disbarred, the clergyman unfrocked, the holder of Her Majesty's commission in the Army or Navy cashiered, and after the withdrawal of titular powers there is an end of the delegated authority. Unhappily the senates, colleges, and corporations armed with the power to grant licences in medicine and surgery have of late years fallen into a practice of selling their diplomas very much as TEKEL dispensed his indulgences; and there is great need that a LUTHER should rise up and denounce a traffic which conflicts with the interests of public health, and is therefore antagonistic to the interests of the medical profession. The abnegation of control which the licensing bodies have so long practised with respect to their jurisdiction over their own graduates, fellows, members, and licentiates, cannot, however, absolve the profession itself from the responsible duty of watching over the public welfare. The general responsibility is, indeed, increased by the negligence of those upon whom it officially devolves to keep the great body of medical practitioners free from any stain of quackery! Never was there a time at which it was more important that the profession should discharge this incumbent duty than the present moment. It must, we fear, be accepted as a postulate in the argument that the bodies empowered by law to grant qualifications to practise refuse to exercise the cognate and implied function of controlling the practice of their licentiates. Neither the Colleges of Physicians—corporations specially created to maintain the dignity and order the practice of the medical profession—the Colleges of Surgeons—called into existence with similar aims,—nor any one of the universities, will discharge their obvious duty in this matter. All these bodies are engaged in the competitive sale of licences, and it seems to be a subject of indifference to them what the holders of their diplomas do when once that bargain is concluded. Perhaps there is something essentially incompatible in the two functions of licensing and controlling. If that be true, the sooner an Academy of Medicine, or some body which shall be exclusively *censorial* in its function, is created, the better.

Scarcely a day passes in which we do not receive earnest appeals and remonstrances from acknowledged members of the profession against the misconduct of qualified quacks who advertise in the lay papers, send out circulars, and resort to the most flagrantly disreputable methods of touting for public patronage. It would be an extreme measure to hold the perpetrators of these offences against etiquette, and we take leave to say decency, up to the contempt they deserve, and we are, for the present, compelled to treat the just complaints of our correspondents with a reserve which is altogether opposed to our own feelings, and must, we fear, in a large number of instances, appear ungracious, or possibly, even, in some instances, may be misconstrued to imply a certain kind of acquiescence in the practices they denounce Certain it is that, from some cause, the evil against which the profession needs to make a new and determined stand is on the increase. It is difficult to take up a daily or weekly paper without finding advertisements aimed more or less directly to bring practising members of the profession under public notice as claimants to special favour. This is an evil which derives the strength by which it flourishes from the doubtful, though not easily denounceable, proceedings of men who are themselves respectable, but indirectly encourage the artifices of others who are not. It is vain to iterate the once received axiom that "no respectable member of the medical profession advertises," when the columns of the daily newspapers abound with advertisements of works bearing sensational titles, and addressed to the public by medical men, of instruments, preparations, and appliances, advertising, if not *intended* to advertise, the names, qualifications, and addresses of men who are not only engaged in, but who court, practice! Those who do such things should think how much beyond their own personal burden of responsibility is incurred by the course they take.

Under the shadow of this practice of indirect advertising, carried on by men who are respectable and even eminent members of the profession, has sprung up the practice of open advertising by qualified quacks. If there were no respectable transgressors in this respect, it would be easy to denounce the whole body of "advertising doctors" as unworthy of public confidence; but, as the case now stands, whenever this wholesale denunciation is made, there is the consciousness that the next post may bring cuttings from newspapers showing how fully-qualified and really good men are among the delinquents.

We will not pursue the subject further into detail, although if there be not some marked change for the better in the practice of seeking publicity by sinister or at best equivocal means, such as advertising, and the distribution of circulars, we shall be compelled to consider whether it is not a duty which cannot be longer evaded to proceed to extremities and name those who make so light of professional honour as to drag it in the dirt before the eyes of the public. Meanwhile we appeal to the profession as a whole to make it clear to its members that conduct such as that to which we have alluded is not of a nature to be condoned or tolerated. If it be true, as the history of our profession certainly seems to show, that no practitioner, however temporarily sought-after, can be permanently successful unless he secures the respect and confidence of his compeers—in a word, of the only men competent to appraise his real merits—it should be in the power of the profession to control the conduct of its members in this particular. We are convinced it *is* well within the power of the profession to do so; and simply because the authority vested in the body of practitioners is not exercised this evil grows apace. The self-respect of the great majority must discountenance the practice of the few—we fear it may be said the *many*—who in the haste to be rich, or chagrined with a disappointment which is the recompense of their own impatience, are discrediting a vocation wherein only those who are strictly honourable deserve to succeed.

THE "sanitary organisation of nations" (we borrow the phrase from Dr. BOWDITCH, of Boston, Mass.) is about to become, it would appear, a mission of the United States of America. The initial step in carrying out this mission we take to be the joint resolution we had occasion to notice a short time ago, and which was introduced into the Senate and also into the House of Representatives in February, authorising the President to take the initiative in calling together an International Sanitary Conference at Washington. To this Conference it is proposed that the several Powers having jurisdiction of ports likely to be infected with yellow fever shall be invited to send delegates for the purpose of securing an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such Powers, and of vessels sailing therefrom.

Hitherto the United States have, as a rule, abstained from taking, or have not had, part in the various International Sanitary Conferences held in Europe; and it is a curious feature in the sanitary activity developed in the States since the formation of the National Board of Health that one of the earliest outcomes should be the manifestation of a desire to cultivate sanitary administrative relations with other nations. To a race so pre-eminently practical as our Transatlantic brethren we should have imagined that the almost painful futility of the several International Sanitary Conferences which have been held in Europe in bringing about administrative accord in hygienic measures between the several Powers represented in them would have exercised a deterrent effect—if, indeed, it had not induced contempt for this apparently hopeless method of endeavouring to secure international sanitary concord by means of conferences. On the contrary, the United States propose to act as if they saw in our failures in this direction an additional argument for their intervention. Let us hope that their action in the matter rests on an accurate knowledge of the difficulties which have to be overcome in promoting an international sanitary organisation, and is not the mere product of a theoretical conception of the advantages that would arise if nations would combine against certain sanitary evils which concern them in common—a conception, it may be surmised, very apt early to occur, and to influence the first-formed Central Sanitary Organisation in the States.

But what prospect has the United States of prospering in her self-imposed mission, even when restricted at the outset to the single question, which so intimately concerns her, of yellow fever? Few things have excited so much surprise in this country in connexion with the administration of the United States Board of Health as the prominence which it has given, and is still giving, to measures of quarantine in its suggestions for the limitation of recent prevalences of yellow fever. It is true that a broader signification is given to the term than is commonly attached to it by European nations, in the sense that a system of medical inspection of ships and passengers is grafted on the quarantine regulations. Generally greater prominence is given to sanitary matters in regard to them, and the health officer is required to exercise some discretionary power. But the quarantine element is veneered rather than essentially modified by these changes. For example, in ships from foreign ports, it is sufficient that they should have sailed from a port, or touched at any port, or communicated with any ship on her voyage, in which either yellow fever, or cholera, or plague, or small-pox as an epidemic, or typhus fever also as an epidemic, has prevailed, in order to render them liable to quarantine. Here, true to the old quarantine fancies, the *possibilities* of infection, however remote and inconsistent with our actual knowledge of the mode of dissemination of communicable diseases, are made to govern the practice. The same is true of the regulations laid down in inland quarantine, and in a Bill now before the House of Representatives it is proposed that when a place shall have been officially recognised by the President to be dangerously infected with contagious or infectious disease, it shall be unlawful to transport goods or persons from such a place into a State other than that in which such a place is,—in other words, an endeavour is to be made to cut off all communication between the infected place and State and other States.

Unless human nature differs singularly across the Atlantic from what it does here, we may expect that these regulations will prove in practice of no higher value than other "paper

plausibilities" of quarantine. If they have been devised with a view of conciliating the opposed schools, so to speak, of quarantinists and hygienists, we imagine that they will fail, for each will scarcely be prepared to assent to so much of its notions being overlapped by the notions of the other. In fact, we cannot but regard the views as to quarantine entertained by the National Board of Health as a retrogression, not an advance, in hygienic practice. The world is not so barren of experience as to quarantine that the system should be accepted as a sort of public-health necessity. In England we have been steadily endeavouring now for some years to bring our sanitary administration as to infectious diseases, whether ordinary or foreign, into such form that every locality shall be at all times in a state of preparedness to deal with them with the least amount of disturbance to the current affairs of life and the least need for the exercise of any special powers. We are not prepared to say that some greater powers of restraint in respect of foreign diseases than is possessed under the Public Health Act might not be desirable, but such restraint, if experience here goes for anything, should certainly not be of the nature of quarantine. We had hoped that English experience in this matter would have exercised much influence on medical opinion in the United States, and that the new National Board of Health, having nothing to unlearn, would have been able to approach the subject untrammeled by those traditional elements which go to make up the system of quarantine.

WHATEVER the party triumph to be achieved in the current elections, it is to be hoped that the Parliament that is to be will be more earnest in vital and sanitary questions than that which has just expired. The tendency of the late Parliament to put every duty of an urgent character into a permissive form nullified half of its Acts. One conspicuous example in point is to be found in a clause of the Poor-law Act of 1879, which was meant to provide better accommodation in the metropolis for infectious disease. The clause purports to give power to the Metropolitan Asylums Board to contract with the local authorities for the reception in hospital of persons suffering from dangerous infectious disorders; and further gives power to the local authority to recover any expenses for maintenance from such persons. This clause should have been followed by another requiring the local authorities to enter into such arrangements, and, failing to do so within a given time, giving power to the Local Government Board to do so for them. But such was not the manner of legislation in the late Parliament. Its domestic policy was not "spirited." It put into the clause we are criticising the word "may" instead of "must," and it entirely omitted to put any pressure on the local authority; so that it is a matter of will or disposition with them, and not of requirement. The consequence is, that men like Mr. GALSWORTHY and Sir EDMUND H. CURRIE, who spend a great amount of their valuable time at the fortnightly meetings of the Metropolitan Asylums Board, have to waste it in passing such resolutions as the following:—

"That a circular letter be now addressed to the various metropolitan vestries and district boards inquiring *whether they are desirous* of availing themselves of the provisions of Clause 15 of the Poor-law Act of 1879 by contracting with the managers, and, if so, to state the approximate number of beds which they would wish to be provided for them in the managers' establishments, if suitable arrangements can be made."

This resolution clearly shows that the whole thing is left to the option of the local authorities, who will act irregularly and without system. It is highly unjust to the members of the Metropolitan Asylums Board—most of them busy men—to make such weak laws, which can bring nothing but discredit and disaster on themselves and the local authorities.

A perusal of the minutes of the recent meetings of the managers of the Metropolitan Asylums District shows that they are embarrassed with the claims of rival epidemics, and have to shut out of one hospital cases for the treatment of which it was built, in order to make room for cases of another infectious disease for which it is not adapted, and that even then the accommodation is inadequate. Thus in last autumn it became necessary to close Homerton and Stockwell against small-pox cases, and to use them for the treatment of enteric fever cases. At Stockwell, in January, the demand for accommodation for scarlet fever cases was such that forty patients were admitted in excess of the certified capacity of that hospital, and as the cases still pressed, the accommodation for typhus had to be sacrificed to meet it. The great inconvenience resulting from these arrangements, and from the necessity of removing small-pox cases to either Deptford or Fulham, has given rise to much complaint. No doubt the managers have done the best they could; but they are hopelessly embarrassed by weak and inefficient laws. It would immensely facilitate their work if local authorities were required to make local provisions for the early ascertainment of infectious diseases and for the prompt isolation of sufferers from them, as in the recent outbreak of small-pox in St. Pancras. Until some laws to this effect of a stringent character are passed, we do not envy the position of the members of the Metropolitan Asylums Board, who are liable at any time to be overwhelmed with one or more epidemic diseases.

Annotations.

"Ne quid nimis."

AN INTERNATIONAL MEDICAL CONGRESS.

A MEETING of the delegates appointed by the Universities, Colleges, and public bodies in reference to the subject of an International Medical Congress was held at the Royal College of Physicians on Tuesday, March 30th, at four o'clock, when the following delegates were present: H. W. Acland, M.D., Regius Professor of Physic from Oxford; G. E. Paget, M.D., Regius Professor of Physic, Cambridge; R. Smith, M.D., University of Aberdeen; T. R. Fraser, M.D., University of Edinburgh; Alfred Hudson, M.D., University of Dublin; J. R. Bennett, M.D., President of the Royal College of Physicians, London; D. R. Haldane, M.D., President of the Royal College of Physicians, Edinburgh; Arthur Hudson, M.D., King and Queen's College of Physicians, Ireland; Luther Holden, Esq., President of the Royal College of Surgeons, England; F. B. Imlach, Esq., President of the Royal College of Surgeons, Edinburgh; A. Buchanan, M.D., President of the Faculty of Physicians and Surgeons, Glasgow; Professor Huxley, President of the Royal Society; E. H. Greenhow, M.D., President of the Clinical Society;

W. S. Playfair, M.D., President of the Obstetrical Society; Sir Joseph Fayrer, M.D., President of the Epidemiological Society, and representing the Medical Department of the Indian Service; Alfred Carpenter, M.D., President of Council of the British Medical Association; T. G. Balfour, M.D., representing the Medical Department of the Army.

The meeting had been convened to consider the following questions:—

1. At what period in 1881 shall the Congress be held, bearing in mind that foreign professors can leave their duties at certain periods only—viz., during the Easter recess and the months of August and September,—and that British scientific men, especially those residing in London, are generally absent during these latter months?

2. By what method can the design of the Congress be best carried into effect, whether by the appointment of an Executive Council to organise the details, subject to the approval of the General Committee of Delegates, or in what other way?

3. What branches of medical science should be comprised in the subjects to be discussed at the Congress?

4. How are funds to be obtained for defraying the expenses of the Congress?

Dr. Bennett was requested to take the chair, and having briefly explained the purpose of the meeting, letters were read excusing the absence of certain delegates.

The following resolutions were adopted:—

1. That an International Congress be held in London in 1881.

2. That it be held between the 4th and 15th of October.

3. That a General Committee be formed, to consist of the delegates, with power to add to their number, who shall have authority to make necessary arrangements for organising and working the Congress, and who shall report from time to time as may seem necessary to the delegates for the information of the bodies by whom they have been appointed.

4. That each member of the Congress pay a sum of one guinea.

5. It was resolved that the following be requested to form part of the General Committee:—W. Bowman, Esq., Dr. Matthews Duncan, Dr. William Farr, C.B., Sir William Gull, Bart., M.D., Professor Humphry, Sir William Jenner, Bart., K.C.B., M.D., Professor Lister, Wm. MacCormac, Esq., Sir James Paget, Bart., Professor Rolleston, Dr. Sieveking, John Simon, Esq., Dr. Storrar, Dr. Allen Thomson, Dr. Hermann Weber, and Erasmus Wilson, Esq.

After a vote of thanks to the chairman, and a request that Dr. Pitman would for the present continue to act as honorary secretary, the meeting separated.

THE NEW TREATMENT FOR CANCER.

THE remarkable statement made by Professor Clay, of Birmingham, in a paper which appeared in our columns last week on the "Treatment of Cancer by a new Method," has naturally excited great attention, and will doubtless induce hospital physicians and surgeons, and practitioners generally, to make a prompt trial of the remedy, which is declared to have achieved highly satisfactory results in the relief, if not also the *cure*, of a disease that has hitherto baffled treatment. The matter is evidently one of more than common moment to the profession and the public. It will be important, under these circumstances, to make sure that the drug employed is certainly what it professes to be. As a matter of fact, it is by no means easy to obtain Chian, or Cyprus turpentine. So long ago as the date of the publication of the earlier editions of Pereira's Materia Medica there was so much difficulty in procuring the substance that the profession was especially warned against the almost inevitable substitution of Venice or Canada turpentine, or some other terebinth of totally different properties, in dispensing of prescriptions, for Chian turpentine. Probably there is scarcely any of the true resin in the market at present, and only druggists who happen to possess a small forgotten store *can* supply it. We think it desirable to make this intimation for the sake of medical practitioners who may be anxious to try the remedy, but who are almost sure to be disappointed, unless they take more than ordinary measures to ensure accuracy. As Professor Clay stated in his paper, no other terebinth except the Chian has been known, or can be expected, to produce the effects which have followed its use in his cases. The public should also be cautioned against resorting to the remedy, without skilled medical advice and supervision; and very earnestly must they be made to understand that probably not a tithe of the medicine likely to be sold under the name of "Chian turpentine" during the next few months will be genuine. The caution given to the profession years ago by the then highest authority on the subject of pharmacy, at a time when there was no special demand for the drug, will be doubly necessary now, when nothing but the accident of having a small reserve on hand can enable any druggist to dispense it. It only remains to add that some of the received descriptions of *Terebinthina Chia* seu *Cypria* are so faulty that identification of the genuine drug will be attended with more than ordinary difficulty. It is the gum of a tree growing thirty or thirty-five feet in height, and is obtained by cutting crosswise with a hatchet the trunks of the largest trees. The yield is very small, "not exceeding eight or ten ounces" for each tree; so that it must be obvious that the bulk of the material sold under this designation at two or three shillings a pound is not genuine. Its consistency is that of honey, but it is more glutinous. The colour is greenish-yellow. It has an agreeable turpentine-like odour, combined with the odour of fennel or citron and jasmine. Its taste is very mild. By keeping it resinifies, and, we may add, loses some of its virtue. The coniferous turpentines, which do not possess its special qualities, are usually sold for it.

THE DISTRESS IN IRELAND.

A LETTER which appeared in *The Times* of the 27th ult. gave to the English public, for the first time, perhaps, an adequate conception of the distress now existing in Ireland. It related to a part only of the districts affected, but the general details may be pretty safely taken as applying to the distressed populations as a whole. The writer is Mr. J. H. Tuke, of the Society of Friends, who had witnessed much of the awful distress of the famine of 1846-47, and who has just concluded a fortnight's personal investigation of the state of things in County Donegal. He tells us that during this investigation he witnessed none of the dreadful scenes that were observed in 1846-47, but he leaves the impression on the mind that we may be very likely to underrate, from the absence of obvious distress, the extent to which real destitution exists. It is clear that a superficial view of the district he visited would lead to a very insufficient notion of the misery prevailing, and he is obviously not satisfied that the Poor-law authorities have fully apprehended the mischief existing or in store. He describes a large population simply kept alive on Indian wheat-meal issued by the relief committees, and this meal alone. "Kept alive" is the proper word to use; for the amount of food which the relief committees can give is insufficient, and indeed not designed, to keep an individual in good working condition. There are still several months to run before other sources for feeding than the relief societies and the Poor-law can be looked for. It is painful to think what may be the ultimate result upon the distressed people of the sort of chronic starvation to which they must be subjected during this period

At present there is singular freedom from serious disease in Donegal, but will this continue in the future? It behoves the Local Government Board for Ireland to look narrowly to this matter, lest, when least expected, there may be a sudden setting up of destructive disease in the most distressed districts. Mr. Tuke writes warmly of the excellent administration of the Duchess of Marlborough's fund, and the funds transmitted through Lord Mayor Sir F. Truscott.

ANCHYLOSTOMOSIS.

UNDER the rather misleading title of "Tunnel Trichinosis," the Geneva correspondent of a contemporary recently contributed some interesting particulars of an outbreak of parasitic disease, which we prefer to recognise by the term above given. The disease has nothing to do with flesh-worms, either as regards the habits of the parasites, or their mode of introduction into the human body. The affection attributed to the Gothard tunnel miners is common in warm countries, and has been variously called tropical anæmia, Dubini's worm-disease, Egyptian chlorosis, hypocæmia, and so forth. Its medical importance was first pointed out by Griesinger, who showed that the intestinal anchylostomes behaved like leeches, drawing the blood of their victims, and reducing them to an anæmic and perfectly helpless state. One of the best accounts of the disease as it occurs in Brazil was supplied by the late Dr. Wucherer, whose name is well known to our readers in connexion with filarial discoveries (*Ueber die Anchylostomumkrankheit*, &c.; *Deutsch. Arch. f. Klin. Med.*, 1872). According to the investigations of Leuckart and others, there seems to be no doubt that the disorder is contracted by drinking impure water, or rather by the swallowing of minute animalcules which are contained in the water, and which (as in the similar case of the guinea-worm larvæ) act as intermediate hosts or bearers. Dr. Cobbold's recent work on Parasites contains an abridged account of Wucherer's researches.

SPRING AILINGS.

THERE is much truth in the old prejudice against the spring as a season of special ailings and health troubles; and there was, and still is, a good deal to be said in favour of certain medical and hygienic precautions to be taken against these probable calamities. It is not only that, misled by the seeming "softness" of atmosphere and fitful gleams of sunshine, the unwary leave off their winter clothing too hastily, and take "cold"; even though this obvious danger may be escaped, there are disturbances of nervous system and disorderly states of the visceral organs, generally, which it is almost impossible to avoid and perilous to disregard. Without doubt the great bulk of the trouble experienced in living, and the pains that must be taken to battle with the enemies of health, are the fruits of our high civilisation. In a mode of existence more natural to the animal organism, not one tithe of what we now regard as necessary precautions would probably be required. It is, however, impossible to order the lives of the present generation in strict conformity with the laws of nature, and it remains to accept the situation with all its drawbacks. In face of this fact, those who would escape maladies incidental to the season, and which may, so to say, lay the foundations of grave and even permanent disease, must be content to undergo certain obvious inconveniences. Prominent among these is the prolonged wearing of thick and heavy clothes, a matter to which we drew attention on a recent occasion. Another burden that must be borne, more or less cheerfully, by the infirm of health, is the need of almost fidgety care to avoid sudden changes of temperature. At no other season is even a fairly strong person so likely to suffer what is termed a chill as now in the "spring weather." It may be too conjectural to hazard a belief that the atmosphere is at this season loaded with more than commonly active irritants, but experience attests the fact that those special irritations of the lining membrane of the throat, nasal cavities, and the air-passages, which are commonly classed under the popular term "influenza," are exceptionally prevalent. Disorders of the mucous membrane lining the stomach and intestinal canal are scarcely less general. All this points to a cause or to causes lying deeper than any mere variations of temperature, however potent this last-mentioned factor of morbid disturbances may be. A good safe maxim for the weakly during the next two months will be to live with more than ordinary watchfulness against the known perils of winter, and to add to this precaution a special carefulness to avoid close and impure atmospheres, badly or improperly cooked food, unfiltered water—in short, to stand on close guard against the assaults of disease, neglecting no symptom, however slight, which betokens an abnormal state of the organism. This is not a cheerful view of the season, but is one that is forced upon us by the prevalence of "ailings" and minor maladies, which in too many cases threaten to entail consequences of which it may be difficult to get rid. In the "good old days" materfamilias was on the alert with her "alteratives" and gentle aperients for the spring season. We are not sure the care bestowed was wasted, or that it has deservedly fallen into disuse.

DEATHS ON PLATFORMS AND WHEN SPEAKING.

SOME years ago Dr. George Johnson, of King's College, published a very interesting and important little paper which, so far as we are aware, has never received the attention it deserved, on the subject of giddiness and faintness while speaking, particularly when rising suddenly after long sitting, and immediately subsequent to a heavy meal. We have not the brochure at hand, but, speaking from memory, the explanation offered was to the effect that the special call made upon the lungs as vocal organs interfered with the respiratory oxygenation of the blood. A more rapid series of chest movements than continuous utterance renders possible is required, and to obviate this deficiency a few rapid breathings will generally suffice. This is an inadequate account of Dr. George Johnson's hypothesis, which we should be glad to see re-stated as a practical hint to inexperienced speakers. Our object in recalling the subject of this little paper is to point out that in an extension of the disorderly state described doubtless lies the cause of many a sudden death from exhaustion in the midst, or at the close of a speech. It is not easy for a weak heart to maintain the acceleration of pump-like movements required to propel the blood steadily through the head, and keep the current properly oxygenated.

SLIDING SEATS.

THAT Cambridge this year made so good a race against Oxford proved a surprise to many; certainly a victory by only four lengths did not justify the enormous odds laid on the winning crew. A close race, however, had been anticipated by many who had closely scrutinised the practice of the two crews, and had not given consideration only to the time test. Oxford, it is true, were the more taking crew, rowing a lively well-marked stroke, with a steady swing forward and clean finish, but it was noticed that the Cambridge men made better use of their legs in sliding, and had they pulled well together and avoided the "bucket forward," which has been such a fatal characteristic of many Cambridge crews, it is probable that the result would have been reversed. In the opinion of many well versed in aquatic matters the introduction of sliding seats will work a revolu-

tion in the art of rowing, and that the use of the "slide" will be still further developed. Already a celebrated Canadian sculler has considerably lengthened his sliding range, and the pace he is able to maintain has as yet been unsurpassed. The sliding seat throws more work on the muscles of the thigh and leg, especially the hamstring muscles, than was the case with fixed seats, without in any way diminishing the amount of work done by the muscles at the upper and back part of the chest. As more muscular work is brought into play by the sliding seat it will probably be found that the adoption of a slower rate of stroke will be most favourable for obtaining the advantage resulting from the exercise of that power. Should this prove to be the case, then the sliding seat will make rowing more truly an exercise than it is at present, by developing muscular work and lessening the strain thrown on the lungs and organs of circulation.

FAMILY PREDISPOSITION TO DIPHTHERIA.

THE local journals contain an exceedingly interesting *interim* report, by Dr. W. N. Thursfield, the medical officer of health for the Shropshire combined district, on an outbreak of diphtheria amongst children in the Ludlow Workhouse. The total number of children in the workhouse at the time of the outbreak was fifty-eight, but the disease at the date of the report had confined itself to those children who were attending the school. Among these children, forty-eight in number, there occurred between February 15th and March 15th thirty-two cases of diphtheria—or, to use Dr. Thursfield's term, contagious cynanche; for by far the greater number of the cases had been classed by the medical officer of the workhouse as sore-throat; six only, if we understand the report aright, having been designated by him as diphtheria. Dr. Thursfield infers that the disease had been imported into the workhouse, and he concludes that it had been disseminated there by the necessarily intimate association in school, &c., of the sick with the well in the earlier stages of the disease—possibly latrine contamination helping somewhat. The outbreak afforded a remarkable illustration of the predisposition which some families appear to have to contract diphtheria and to suffer from it severely. There were amongst the children in the school seven members of one family; all seven were affected with the disease, and three of them died, being the only three fatal cases of the thirty-two attacked.

"BURIED ALIVE."

THE bare possibility that an apparently deceased person may be "buried alive" is too terrible to contemplate without the keenest sense of horror. The fear of this contingency has been revived by some recent communications made to the French Academy of Medicine, on the subject of recovery by the prolonged use of artificial respiration, in cases of supposed death. It is difficult to avoid the inferential belief in a lurking danger when the value of any measure to restore life after seeming death is extolled. Probably, however, the only moral to be drawn from the success of artificial respiration, and like methods of treatment in cases of poisoning, is that extreme efforts should always be made to prolong life through the crisis of a poisoning or the states of apnœa and asphyxia caused by drowning or suffocation from any cause and by any agency. It is always *possible* that if the organic vitality can be maintained during a sufficiently long period the life of the body as a whole will be rekindled. Again, it is possible that certain modes of death occurring in the course of acute disease may admit of treatment. To such possibilities the medical profession is fully alive. The public should be aware that treatment of "the agony" has long formed a topic of special attention in the therapy of disease. There is, therefore, no room for new anxiety as to the point of being "buried alive." No medical man can be at a loss to determine whether an apparently deceased person is really dead. The only need of increased attention relates to cases of poisoning, suffocation, and such forms of death by hanging as do not fracture or dislocate the vertebræ of the neck. The utmost care requires to be taken in cases of capital punishment by hanging, but the prison surgeons are alive to the danger, and the public have no ground for disquietude or fresh alarm.

TYPHUS AND DIPHTHERIA IN RUSSIA.

DURING the week ending March 6th, 661 deaths were reported in St. Petersburg, and of these 14 per cent. were stated to have been caused by maculated typhus. The greater number of the deaths assigned to this cause were among children under five years of age, and next in order of frequency were among individuals from twenty to twenty-nine years of age.

A sum of 480,000 roubles has been placed by the Imperial Treasury at the command of the Minister of the Interior, for the purpose of giving assistance to the governments in which diphtheria is prevailing. Local resources, even with the assistance given by the Red Cross Society, have proved inadequate to meet necessary requirements in attempts to arrest the progress of the disease, and an appeal has been made by the governors of the infected provinces for help to the Imperial Government. To this appeal the special grant above-mentioned is the reply.

THE EFFECTS OF COLD.

M. COLIN has recently published some interesting researches on the effect of various refrigerating media on the temperature of the skin in animals. Those exposed to the action of cold air presented different effects according to the species of the animal, and examination showed that if the cold air lowered the temperature of the skin considerably they rapidly died, whereas if the cold did not effect a notable diminution in the temperature of the skin, it was well borne, and appeared even inoffensive. After establishing this law M. Colin confirmed it by exposing dogs and rabbits for a certain number of hours or days to the severe cold of last December. He found the temperature, even at the surface, remained nearly normal. Young animals, on the contrary, placed under the same conditions, became rapidly chilled and died, although their skin was well covered with hair, a proof that the latter is only one element in the question. If the animal, instead of being placed in the open air, is enclosed in a hut of ice, it manifests great power of resistance, and even after some hours may present a temperature almost equal to that existing at first. Placed in snow, there is a considerable chilling for some hours, followed by a strong reaction, so that after twelve hours the temperature scarcely differs from the normal, and even in the rabbit it presents a fall of only one degree. On the other hand, young animals placed in the snow die rapidly. Hence we must assume that, under these circumstances, as in the open air, the resistance to cold in the animal is due to different factors, among which the presence of a thick furry coat is an important, but by no means the only, one.

THE LATE DR. JOHN DEAKIN HEATON.

THIS distinguished physician, whose death occurred on the 29th ult., besides holding many important professional appointments, took great interest in social and educational movements in Leeds. He was Justice of the Peace for the West Riding and Chairman of the Council of the Yorkshire School of Science. He was also a member of the first school board for the borough of Leeds, and formerly President of the Philosophical and Literary Society.

WILLIAM FARR, C.B., M.D.

THE regulation C.B.—a distinction which is at once the smallest and least useful of honours—has been conferred on Dr. Farr. We congratulate a gentleman, whose merits are happily well-known to his profession, on this public recognition of his services, but we are no more grateful for the acknowledgment than for the ugly hall-marking sometimes graciously bestowed on pure gold.

URTICARIA.

M. VIDAL has published (*L'Union Médicale*, Feb. 24th) the results of an examination of a "wheal" excised during life from a patient suffering from urticaria. The superficial and deep network of vessels was found dilated and gorged with blood, without any alteration of their walls being discoverable. Both the bloodvessels and the lymphatic vessels were surrounded by leucocytes, which were also scattered through the whole thickness of the cutis, and massed together at certain points. A few were to be seen between the cells in the deepest layer of the epidermis. Here this structure was normal, but another piece of skin was excised from a wheal on which the epidermis had been raised in a vesicle. This vesicle contained a serous, albuminous liquid, and the débris of epithelial cells. In the middle layer the cells were vesicular, and those of the deeper layer granular. Leucocytes migrating among the cells in the deep layer of the epidermis were more numerous than in the other case.

M. Vidal remarks that from this pathological alteration we can see the nature of the morbid process. In a predisposed subject some internal or local cause excites the action of the vaso-motor nerves; this excitation is soon followed by contraction of the cutaneous capillaries, and this by their paresis and congestion, with retardation of the circulation. Hence, at the centre of the altered part, there is migration of leucocytes and serous effusion, the acute œdema causing the pale prominence. A similar lesion, a sort of acute œdema, may be produced artificially by injecting into the skin a few drops of water. What becomes of the leucocytes which have wandered out? Are they resorbed or are they carried towards the epidermic layer, as Biesiadecki suggests?

It will be observed that this theory ignores any participation of the muscular fibres of the skin, which has been assumed to account for the limitation of the œdema and consequent prominence of the wheal—a limitation which M. Vidal leaves unexplained.

A ROYAL DOCTOR.

IT is stated that the German Chancellor has caused the announcement to be made that His Royal Highness Duke Theodore of Bavaria, who recently took the degree of Doctor of Medicine at a German University, has received the certificate enabling him to practise as a surgeon without being required to undergo the additional examination to which intending practitioners are ordinarily liable under the German law. It may not be generally known that the Electoral Prince Charles, Count Palatine of the Rhine, was created a Doctor of Medicine at the University of Oxford just two hundred years ago—viz., 1680. The Duke of Montagu, who died in 1749, was a Fellow of the London College of Physicians, as was the Duke of Richmond, who died the following year.

THE CORONER FOR KENT.

WE are glad to hear that Dr. Theodore Maxwell, M.B. Cantab., of Woolwich, is a candidate for the coronership for the County of Kent, vacant by the death of Mr. Carttar. Dr. Maxwell's high professional standing ought to give him a strong claim with the freeholders of the county.

A CORRESPONDENT, in a letter dated Candahar, 2nd March 1880, states:—"Weather cool and pleasant, but has been very variable. Per cent. sick: Europeans 5·2, natives 7. Chest affections have been prevalent, and with natives sudden cerebral effusion has been observed in some instances. Since fall of rain and snow pneumonia has been less prevalent. Surgeon-Major R. H. Bolton, A.M.D., died on Feb. 27th, from abscess of the liver. He entered the service 30th September, 1863; was promoted Surgeon-Major 28th April, 1876. Surgeon McCartie, I.M.D., Med. Ch. 2nd B.C., was severely wounded on Feb. 29th. He was riding alone among the hills, and was fired at by a man supposed to be a hill robber; slug hit right clavicle and glancing off passed backwards, lodging deeply behind right shoulder, whence it was extracted; so far doing well. Preparations being made for advance, men of artillery have been put through a short course of bandaging and stretcher drill by Surgeon-Major Markey."

A LARGE meeting of medical students and others connected with St. Bartholomew's Hospital was held in one of the new lecture-rooms, on Wednesday, March 24th, to consider the advisability of forming a Medical Union Club, on the plan of the Oxford and Cambridge Unions, for medical men and students in London. The meeting was addressed by Mr. Luther Holden, President of the Royal College of Surgeons, and by Mr. Butlin. Mr. Savory also sent word to the meeting that the project, so far as it had been explained to him, received his warmest support and approval. A resolution was passed that the meeting considered it "desirable to establish a Medical Union Club."

MR. GEORGE HENRY JACKSON, house-surgeon of the Crumpsall Workhouse Infirmary, Manchester, contracted scarlet fever on Monday, the 23rd ult., which unfortunately terminated fatally on the Friday following. The deceased gentleman, thus cut off at the commencement of a promising career and in the midst of his beneficent exertions for the relief of the suffering poor, was educated at Liverpool, Edinburgh, and St. Thomas's, and obtained the licence of the Edinburgh College of Physicians and the membership of the London College of Surgeons only two years ago.

THE *Athenæum* states that the University of Aberdeen, stimulated by the recent move in advance made by her sister institutions in Edinburgh and Glasgow, has issued a report on certain changes and extensions which have been deemed desirable in the more northern seat of learning. Among these improvements are, the establishment of a botanical garden, the endowment of lectureships and higher scholarships, and the foundation of several new chairs, such as English Literature, History, and Pathological Anatomy.

A FAREWELL dinner to Surgeon-General H. H. Massey, C.B., on his retirement from the Army Medical Department, took place in the officers' mess-room, at Netley, on the 30th instant. Surgeon-General Massey has passed an honourable and distinguished career in the public service, and many brother officers and friends met together on the occasion to show their appreciation of the worth of his character, and to express their regrets at his quitting active employment in the army.

THE subject chosen by Dr. Symes Thompson for the course of lectures at Gresham College, to be delivered on April 6th and three following days, is "Digestion and Indigestion." The lectures are illustrated by diagrams, exhibited by means of the oxy-hydrogen lantern, are free to the public, and commence each evening at six o'clock. Lectures will also be delivered by the Gresham Professor of Medicine on October 12th, 13th, 14th, and 15th.

THE analyst for Limehouse, Dr. Rogers, has drawn attention to the fact that the inspectors under the Adulteration Act had become so well known to the shopkeepers of the district that it was almost impossible to obtain samples of food and drink which fairly represented the bulk. He was convinced that adulteration was carried on to a considerable extent, and wished the public would aid him in his duties by sending to him samples for analysis. Out of 700 articles tested, not one had been received from the public.

A MOTION was carried at a recent meeting of the Metropolitan Asylums District Board as follows:—"It being desirable to ascertain the relative percentage of non-pauper patients (if any) to pauper patients sent to and treated at the several fever and small-pox hospitals of the managers, the various hospital committees are hereby instructed to cause inquiries to be made at their respective establishments, and to report the results to the managers."

THE United College, including the faculties of Arts and Medicines, in the University of St. Andrews, is in difficulties. A few thousand pounds are needed to repair the deficiency of the exchequer, impoverished by the depreciation of rents. Surely the Medical alumni of this University are numerous, and should be active enough to give substantial help in the emergency.

MR. MICHAEL H. STAPLETON died at his residence in Mountjoy-place, Dublin, on the 30th ult. Deceased was a graduate in medicine of the University of Dublin, a Fellow of the Royal College of Surgeons in Ireland, and formerly an examiner in the latter institution.

A PROPOSITION has emanated from the Kensington guardians that Lock patients should be placed under the care of the managers of the Metropolitan Asylums Board, in the same way as other cases of an infectious character.

DR. GRATTAN, one of the oldest Fellows of the Irish College of Physicians, is a candidate for the representation of Kildare in Parliament; and Dr. Robert D. Lyons, of Dublin, has intimated his intention of contesting that city.

THE death is announced of Dr. W. P. Schimper, corresponding member of the Académie des Sciences, and the author of numerous important geological and botanical works.

HEALTH OF LARGE ENGLISH TOWNS.

TWELFTH WEEK OF 1880.

ENGLISH urban mortality shows a slight increase on the rates which prevailed during the fortnight ending 20th March. In twenty of the largest towns, estimated to contain in the middle of this year seven and a half millions of persons, or nearly one-third of the entire population of England and Wales, 5140 births and 3144 deaths were registered last week. The births were 45, and the deaths 131, below the average weekly numbers during 1879. The deaths exceeded by 69 the slightly increased number of the preceding week. The annual death-rate in the twenty towns, which had steadily declined from 37·0 to 21·4 per 1000 in the six weeks ending March 13th, and was again 21·4 in the following week, rose to 21·9 last week. During the past twelve weeks the death-rate in these towns averaged 25·6 per 1000, against 23·8, 25·1, and 27·4 in the corresponding periods of 1877, 1878, and 1879. The lowest death-rates in the twenty towns last week were 11·7 in Brighton, 17·5 in Portsmouth, 19·3 in Leicester, and 19·9 in Wolverhampton. The rates in the other towns ranged upwards to 23·7 in Liverpool and in Norwich, 24·0 in Manchester, 26·7 in Nottingham, and 32·0, the highest rate during the week, in the borough of Plymouth. Measles continues to be exceptionally fatal in Plymouth, and during the twelve weeks of the current year has caused 122 deaths in the borough.

The deaths referred to the seven principal zymotic diseases in the twenty towns, which had risen to 476 in the week ending March 20th from the steadily declining numbers of the previous weeks, fell last week to 424; these included 160 from whooping-cough, 108 from scarlet fever, 80 from measles, and 37 from fever, chiefly enteric. The annual death-rate from these diseases averaged 3·0 per 1000 in the twenty towns. There were no deaths from the seven zymotic diseases registered in Brighton last week. The zymotic rate was but 0·4 per 1000 in Portsmouth, whereas it ranged upwards to 6·6 in Nottingham, and 8·4 in Plymouth. Whooping-cough showed the largest proportional fatality in Salford, London, and Newcastle-upon-Tyne; scarlet fever in Nottingham, Salford, Norwich, and Sunderland; and measles in Hull, Nottingham, and Plymouth. Fever, principally enteric, caused 18 deaths last week in London, 5 in Liverpool, and 4 in Sheffield. The 8 deaths from diphtheria in the twenty towns included 5 in London. Small-pox caused 4 more deaths in London, but not one in any of the nineteen large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which had declined from 168 to 171 in the three preceding weeks, were 167 on Saturday last; 31 new cases of small-pox were admitted to these hospitals during last week, against 41 and 25 in the two previous weeks. The Highgate Small-pox Hospital contained 14 patients on Saturday last.

The fatality of lung diseases showed a slight increase last week. The deaths referred to diseases of the respiratory organs in London, which were 315 in each of the two preceding weeks, rose to 333 last week, but were no less than 141 below the corrected weekly average; 207 resulted from bronchitis, and 85 from pneumonia. The annual death-rate from diseases of this class in London last week was equal to 4·7 per 1000, against 5·9 from the same diseases in Liverpool.

Correspondence.

"Audi alteram partem."

THE SCOTCH UNIVERSITIES AND MEDICAL REFORM.

To the Editor of THE LANCET.

SIR,—I am glad to find that you give me credit for so much as is implied in your remark that, "if more closely cross-examined," I might "have come out as a very good medical reformer." I have always considered myself a reformer, medical and other, by hereditary as well as personal leanings, and it would be extremely contrary to all my best instincts to attack anything that was really of the nature of a reform, or to defend anything that was of the nature of an abuse. But I hold, none the less, that the so-called reforms set forth in the Government and the other medical Bills before the late Parliament, have been framed with a most reckless disregard of the interests of the Scotch universities; and by this I mean not the interest of the professors, but still more of the students, and of the education and discipline which are the very life of their system. And when it is considered that the extra-academical medical schools in Scotland are becoming every day more and more a part of the university system—inasmuch as their teaching is largely recognised by the universities, and their rivalry is such as to stimulate rather than to antagonise the university schools, to which, indeed, most of the extra-academical teachers look for their promotion when they attain distinction—I think I am not assuming too much in arguing that what is opposed to the interest of the one is also opposed to that of the other.

Now, Sir, I don't wish to boast. It is always unbecoming, and it is not a style of argument very likely to accomplish my present purposes. But surely I may appeal to THE LANCET as having on several occasions borne a very generous and most ample testimony to the efficiency of our Scotch schools, and particularly to the serious diligence with which the work both of teaching and of learning is

carried on in all the three teaching universities. The evidence given by Professor Turner on behalf of Edinburgh, and by Professor Struthers and myself on behalf of the other two, ought, I think, to be accepted as conclusive upon one point at least—viz., that our great prosperity since the Medical Act has not been the result of a lowering of our standard, either of discipline or of examination; but, on the contrary, of a great increase in the thoroughness and stringency of both. I venture to claim for the Scotch universities, for instance, to have been both earlier in adopting, and more resolute and systematic in carrying out, clinical and practical methods of examination and of instruction, than any of the London Boards. This distinction we owe, not to the personal qualifications of our teachers or examiners individually, but to the compactness of our system, which allows of all the means both of teaching and examination being available at one point, as it were; while in London they are distributed over a number of different centres; and it is notorious that the colleges in particular, in dealing with their large numbers of candidates, have found the greatest practical difficulties in even coming up to the demands of the Medical Council in this respect. We are able to accomplish what we do with comparatively little strain, because we have our laboratories, museums, hospitals, pathological departments, &c. &c., all subject to one set of conditions, in one locality, though not necessarily under one roof, or one set of authorities. It is the *university* which is at once the centre, and the regulating principle, round which all these means, so far as they subserve medical education, are grouped. It is the university which, by creating a stimulus and a demand for them, secures like advantages, indirectly, even for the extra-academical schools. And it is mainly owing to the university having within itself the powers of conferring a complete legal qualification, that these means and opportunities, alike for instruction and for examination, have arisen around it, and not as an adventitious growth around individual hospitals, having no relation, in the first instance, with any academic centre.

It is no part of my wish to make invidious comparisons, and I am very far from undervaluing, as all my friends in London and elsewhere know well, the splendid names and labours which have illustrated, and still illustrate, medical science in the metropolis. But the greater the eminence of these individual names, the more it becomes remarkable that a small and thinly-peopled country like Scotland, having a scattered population less than that of London alone, not to speak of England, should have been able to maintain in three separate centres of universities medical instruction, a system of elementary biological training on the one hand and of clinical and practical discipline on the other, which have so largely influenced professional thought and medical and surgical practice, even in the metropolis itself. Let any candid and impartial man cast his eye over the list of London celebrities, and ask himself how many of these have owed some part, or the whole, of their medical education to the Scotch universities. May we not fairly argue that a corrupt tree cannot bring forth such good fruits?

Nor is it any part of my purpose to disparage the English universities, least of all the University of London, the high-class medical degrees of which are justly valued and sought by the most eminent men in London itself and elsewhere. But it is important for my purpose to note that, with all this most legitimate prestige as regards its degrees, the University of London exercises almost no influence, directly, over the medical schools of London. It neither contributes to their status, nor strengthens their discipline, nor interferes with their curriculum of study, nor binds them in any way together in an organised whole. It leaves them, as it found them, what might almost be termed a fortuitous concourse of atoms. In other words, it is not a teaching university. I do not stop here to argue whether this is right or wrong in principle. My own opinion is that the University of London might do an unknown amount of good by affiliating the schools and taking some practical charge of them. But the fact remains that the system in Scotland has been from first to last *not* that of England, or of London; and it will not be denied that the three Scotch universities are at this moment exercising a far more widely diffused influence for good over the whole field of medical education in the profession at large than the University of London, or than all the four English universities taken together. This influence they owe, I maintain, entirely to the fact that they have been always so constituted as to have their degrees practically recognised, while the Medical Act of 1858 enabled them to give a complete and independent legal qualification to practise, and the Universities Act of 1859 raised the status of the Scotch medical degree generally, so as to represent a very varied, solid, and thorough medical training, which only the power of giving a complete legal qualification would have enabled them to exact from their students.

If any of your readers calling themselves medical reformers are ignorant of these facts, or unwilling to acknowledge them, I will respectfully ask them to do one of two things—viz., either to study carefully and impartially the evidence given before the Committee on the Medical Bills on behalf of the Scotch universities, or, still better, to come down to Scotland and see with their own eyes what we are doing, both as regards teaching and examination. But that many English medical reformers and legislators are utterly ignorant of the facts with which they have to do, so far at least as reforms affecting the Scotch universities are concerned, is too manifest to require proof. And it is not at all surprising that it should be so. For while the Scotch system of university medical education is, allowing for national differences, in the main that of almost all Europe, the English system is a thing entirely and absolutely of English growth, and differing from that of all other countries under the sun; and the *double* qualification (which I agree with you in thinking ought to be not *double*, but *single*, and *complete*), is the index, or at least one of the notes, of the difference. In England the medical profession has gradually emerged out of trading guilds, and royal monopolies of practice, conceded to incorporated bodies of physicians, surgeons, and apothecaries. These have all of them done good service in lifting the profession out of the dust, but they have failed to give it, broadly speaking, an academic status. The universities were too high-minded, too expensive, and too socially exclusive, for this work. In Scotland the universities condescended to the wants of humanity in a practical way; condescended, perhaps, too much in the first instance. But they have nevertheless infused into the whole of the medical schools an academic element, which, now that it has been strengthened and purified from abuses by time and the useful legislation of 1859, is an influence of the first importance in all the medical education of the united kingdom. The new legislation proposed, under the name of medical reform, by Englishmen for England, may or may not be suitable for remedying the errors and deficiencies of their "double qualifications;" but, as applied to the Scotch universities, it would be a wholly retrograde measure of "medical reform;" as it would rob them of a legal privilege which is already carefully guarded by statute against abuse, and is the very keystone of their whole system.

To *compel*, by law, our Glasgow University students, for example, to seek a licence to practise elsewhere than in Glasgow, and from a body of examiners wholly unconnected with the university, is practically to disturb and distract mischievously the course of their studies, to relax their academic discipline, and to turn them in the last years of their education from hospital and practical work, to attending grinders' classes, and getting up grinders' books. The regular academic training and examinations in Glasgow have not this effect, at least to any considerable extent, because they are carefully founded on what experience, as between teacher and pupil, has shown to be the most practical and most instructive; and the clinical examinations in particular react on the hospital training, so as to give it a thoroughness and regularity which, so far as I know, are unattainable except in a university, which is also a large medical school. The conjoint board system takes no note of these delicate adjustments, delicate alike for the teacher and the pupil, and lying at the very root of the Scotch university system. It simply assumes that all manner of candidates for a medical licence can be uniformly tested by a board as you test herrings in a barrel—i.e., so as to eliminate all that are below a certain minimum; or, as Mr. Simon, I think, put it more politely perhaps, but not more truly, as sovereigns are minted so as to secure a certain average of weight and quality of gold. My reply to this illustration is that it omits altogether to take count of one little circumstance. The herring is there, and the gold is there; the one has been drawn out of the sea, and the other out of the mine; but in neither case has the assaying, or the branding, or the minting any effect whatever on the growth or the production of the article. But the medical graduate or licentiate is the complex re-

sult of a costly and elaborate system of discipline applied to the mind variously over many years, and the whole course of that discipline is apt to be controlled and regulated by the nature of the tests applied at the end of it. It is not a question of minimum, but a question of the reflex influence of the test. Or, as I said in the Committee, it is not the *minting* of the student, but the *making* of him, that is really of the greatest consequence to all of us, and to the public.

You say, very justly, that raising the base of a pyramid will not diminish the height of the pyramid. Certainly not, if the pyramid remains secure. But raising the base of a pyramid in a rash and inconsiderate way may shake the whole edifice from top to bottom.

I adhere, however, to the general idea of the suggestion I made in my evidence, and which is so far in conformity with the principle, if not of the details, of the modified *Staats Examen* now existing in Germany. If there must be a system of central control over all examinations, emanating from the Medical Council or from any other authority, let the examiners be sent to Glasgow to co-operate with ours, instead of compelling our students to pass a double series of examinations. It is surely more reasonable that the three or four or half-a-dozen men wanted for this purpose should go to reinforce the university examiners, and aid them with their opinion, than that 80, 100, or 150 candidates should be obliged to keep in view two distinct series of examinations where one would suffice. Further, I expect that the board examiners would learn something from us, as well as we something from them, which would be a material advantage, and would enable them to transfer to other examinations the experience gained in ours, and to ours the suggestions arising from other examinations. Finally, I have personally no objection to binding the university, under these circumstances, not to pass, as a graduate, any candidate whom the board examiners would reject. A minimum in this shape would, indeed, do us no harm. But if, this proposal being made, you[1] do not fairly consider it, and endeavour to give it effect, then I say you are bent not on raising the base of the pyramid, but on demolishing the pyramid; not on strengthening the Scotch universities for doing their useful and necessary work, but on destroying that legal position which enables them to do their work effectually; not on medical reform, in any genuine sense of the word, but on a mere arbitrary programme which a certain number of English authorities have agreed upon as suitable for England, and which you insist on our accepting in spite of both reason and common-sense.

I am, Sir, yours, &c.,

Edinburgh, March, 1880. W. T. GAIRDNER.

SALICYLATE OF QUININE.

To the Editor of THE LANCET.

SIR,—Salicin, salicylic acid, and salicylate of soda have obtained a reputation in the treatment of rheumatism. But so far as I have been able to ascertain no notice has yet been taken, in this country at all events, of another salicylate, which seems likely to secure a high place in the treatment of that malady—I mean salicylate of quinine.

The first mention I had of it was made to me in a letter by a patient resident with her family in Paris during the past winter. One of her sons had a sharp attack of rheumatic gout. Salicylate of quinine was prescribed for him, and she wrote of the effects as wonderfully rapid and satisfactory. Ten days ago she returned to London and sent for me to attend one of her family, who had suffered severely in their rough passage across the Channel. For three days previously I had been suffering from rheumatism in the left knee and thigh. It had steadily increased to such an extent that I could hardly walk at all; and when I sat down it cost me much pain and difficulty to rise up, and still more to make any progress. My movements were awkward and distressing to myself and to lookers-on. My good friend was very sympathetic. In her usual kind and practical way she ordered me "home to bed," and early next day, as soon as she could get to her boxes, she sent me a note with a bottle of the salicylate of quinine, which she had brought over with her. Pressing engagements prevented me remaining in bed that forenoon. But by four o'clock in the afternoon I was dead beat, and quite incapable of further work. Between four and five I retired to bed. For two days previously I had fever on me, which had gradually increased, and now my temperature stood at 101°. My usual temperature is 97·5° to 98.° I at once took a dose of salicylate of quinine—twenty centigrammes—as directed on the bottle. In bed I could not move my leg or turn myself without the greatest difficulty and suffering. During the night I perspired freely. Next morning, Feb. 22nd, there were still fever and pain, but the temperature was considerably less. All that day I remained in bed, and I took three doses of salicylate of quinine at intervals of four hours. In the evening and during the night I felt I could move myself altogether with greater ease, and I had a quiet good night. Next morning, Feb. 23rd, I felt completely relieved. To my astonishment (for this was not my first attack), I got out of bed and walked across the bedroom without the slightest limp. The posterior muscles of my thigh certainly felt sore as if they had been severely strained and bruised, but I felt as able for my work that day as if nothing had happened, and I did a long day's work.

On Tuesday, the 24th, I felt really quite well, only, as I was informed, looking very pale and thin. By this time I had finished all my stock of salicylate of quinine, and I did not think it necessary to take any more. However, in three or four days after, I began to feel again a slight soreness and stiffness of the same muscles. This seemed to confirm the necessity for the caution which my kind benefactress laid on me at the first—namely, not to discontinue the medicine too suddenly.

Salicylate of quinine, though not usually employed hitherto in London, is to be procured. The difficulty I have found is to get it easily dissolved, and kept in solution. Mons. L. Midy, a pharmacien of Paris, 113, Faubourg St. Honoré, has made an elegant preparation of this drug. It is one I have used, and I can recommend it. But I have no doubt our expert London chemists will be able also to master any difficulty that may appear at first sight to exist.

I think this is an opportune moment wherein at once to bring the evidently valuable drug to the notice of the profession.

I remain, Sir, your obedient servant,

ARCHIBALD HEWAN, M.D.

Chester-square, March, 1880.

TYPHOID FEVER IN THE EAST.

To the Editor of THE LANCET.

SIR,—The enclosed letter is interesting in reference to the etiology of typhoid fever in the East and tropics. As you have published others on the same subject, perhaps you will kindly give this a place also.

I am, Sir, yours truly,

J. FAYRER.

Granville-place, Portman-square, W., March 18th, 1880.

Calcutta, Feb. 25th, 1880.

DEAR SIR,—I too have long been of opinion that typhoid fever may have origin in other causes than the filth to which in most cases it is rightly assigned. Or, as I have frequently expressed it, that the problem—given a fever, required a stench—is not universally capable of being solved, and this more especially in tropical and subtropical climates. During a service of twenty-seven years I have treated typhoid fever in the Mauritius, Barbadoes, and Bermudas, and this conviction has gained strength as my experience has extended. I was much pleased to see it obtain the support of your authority.

I have often felt tempted to express my opinion in the medical periodicals, but have been deterred by the difficulty of proving a negative, or of obtaining sufficiently exhaustive evidence to render the position practically unassailable.

Being now separated from my notes, and not having by me a copy of my official report on a severe visitation of typhoid fever from which my late regiment (1st Battalion, 15th Foot) suffered in Bermuda in 1868-69, I can only give from memory a general outline of the facts, which, however, may possess some interest.

The regiment was ordered from New Brunswick to Bermuda in April, 1868, as supernumerary to the garrison, to be employed on the works (fortifications). When we left New Brunswick the frost was still on the ground; in four days we

[1] I trust it is scarcely necessary to explain that I do not mean by you the Editor of THE LANCET, but the originators and promoters of the Medical Bills.—W. T. G.

were in the commencement of a very hot season in Bermuda. A portion of the regiment was encamped. The head-quarters was in barracks at St. George's. Dysenteric cases shortly appeared in both parties, followed by typhoid fever in the companies under canvas, and this so severely that the encampment had to be broken up, and the men were put into barracks at Boaz Island, and not employed on the works. The fever then ceased.

At a later period another party were encamped at another part of the islands, relieving a party of the 61st Regiment. The 61st party had been free from fever. They were acclimatised. Fever (typhoid) broke out again so severely in my regiment that the party had to be withdrawn. About the same time it broke out at head-quarters, and was very severe. I stated in my report my inability to trace it to any defective sanitary arrangement.

In the encampments the dry-earth system of conservancy was adopted. The water used was rain, collected in tanks, removed from any possible source of pollution. At head-quarters the tanks were of iron. Every possible attention was paid to the sanitary condition of camps and quarters. The 61st acclimatised party had been free from fever with the same arrangements in the same encampment. At head-quarters the barracks were favourably situated, above and outside the town, and were exposed to wind from every quarter. The town, with its narrow lanes, dense population, cut off from the wind on two sides, by the hill on which the barracks stood, and with certainly inferior sanitary arrangements, was at this time free from typhoid fever.

The only universally applicable explanation of these cases appeared to me to be "climatic causes affecting new-comers." A very sad case in support of this view occurred on the relief of my regiment in 1870. A young officer of the relieving regiment, lately married, took a detached cottage near my own house. It had been occupied for more than two years, to my knowledge, by an officer of engineers, his wife and child, without any case of fever. The *new-comers* had not been in it two months before this officer lost his young wife of typhoid fever.

I remain, dear Sir, faithfully yours,

JOHNSTON FERGUSON, Surgeon-Major.

Sir Joseph Fayrer, K.C.S.I.

TWO CASES OF VACCINATION WITH LYMPH FROM THE CALF.

To the Editor of THE LANCET.

SIR,—As the question of the introduction of calf lymph for vaccination is now being discussed, the report of the two following cases, which occurred in my practice within the last three weeks, may prove instructive and worthy of perusal.

1. On Feb. 20th, 1880, I vaccinated a healthy male child of Mrs. F——, aged three months. It was small, being a seven-months' child. As the mother objected to both arms being scarified, three marks were placed on one arm, the ordinary cross scarifications being made, and the lymph from the tube blown upon the lancet and rubbed in. That day week, on calling, I found that each of the three places had taken, the usual groups of vesicles resulting—in one mark remaining distinct, in the other two running into one large pock. The marks were in no way unusual, free from all areola, and could be described as good vaccine vesicles. I took several tubes for future use, and learned from the mother that the child had been very well, save the night before, when it was fretful and slightly feverish. The vesicles followed the ordinary course, drying and scabbing without any unusual irritation, and leaving good marks.

2. On Feb. 25th, a tube of the same lymph was used to vaccinate the male child of Mrs. A——, aged six months. This was stronger and healthier than the above, being born at full time, and the first child of its parents. The arm was scarified in exactly the same way as before, three marks being made, and the blood scarcely drawn in any one of the places. That day week, March 3rd, on calling I found one fair vesicle formed, the other two being small and partially scabbed over. A slight erythematous blush was noticed around the spots, but not more than a marked areola. On inquiry the mother informed me that the vesicles had been accidentally rubbed the day before, the lymph escaping. I was somewhat dissatisfied at the result, and warned her that the inflammation and small pocks were the result of the vesicles being injured and ruptured the day before.

March 5th.—Sent for to find the child in great pain, crying for half an hour at a time, with the arm swollen and erysipelatous at the elbow and on the contiguous parts above and below. Area of the vesicles free, but disease was evidently spreading down the forearm. Ordered lead and opium lotion, with compound chalk powder.

March 7th.—Pain unrelieved, arm swollen to twice its usual size and erysipelatous to the wrist. No action about the vesicles; child feverish and refusing its food. Ordered drop doses of laudanum, and continued lead lotion. In evening fingers contracted, with swelling of hand. Inflammation somewhat less; the pain was greatly relieved; the child seemed better, taking the breast.

March 10th.—Erysipelas reappeared at the site of the vesicles, spreading up on to the shoulder; the child had some difficulty in swallowing, and the neck seemed painful and stiff on the affected side. Arm still much swollen and inflamed. Ordered the limb to be covered with flour, and wrapped carefully in cotton wadding, and gave child minim and a half doses of tincture of steel, with half minim of tincture of opium, and a calomel powder, as the bowels were confined. Without following out the case daily, I may say that for the next four days the disease remained stationary, appearing now on the forearm and again on the shoulder, the swelling being undiminished, and the tenderness increasing.

On the 14th the arm was less red, but at the elbow swollen and very tender, at an indurated spot on the inner aspect of the forearm. The child's general health was, however, better, the bowels acted well, and he took his food. A bread and hop poultice was applied, and a saline given. Hardness on the following day was felt above the bend of the elbow on its inner side, the forearm being softer and smaller. Under poulticing these suspicious spots gradually passed away, the vesicles, which at one time were large, ulcerated, unhealthy sores, dried up and formed scabs. The arm decreased rapidly in size, and on the 18th of March was desquamating and of natural colour. The child is now well. The lymph was obtained in tubes from Messrs. Corbyn and Co., of High Holborn. It is not often that two cases occur at the same time offering such points of interest as the above, and although the results of the first case were very satisfactory, I have never seen from ordinary vaccinations (and as public vaccinator I have had some experience) so severe an attack of erysipelas as resulted in Case 2.

I remain, Sir, your obedient servant,

Hailsham, March 22nd, 1880. J. H. BOGLE, M.B.

TREATMENT OF CANCER BY CHIAN TURPENTINE.

To the Editor of THE LANCET.

SIR,—The valuable and exceedingly interesting paper of Professor Clay in THE LANCET of March 27th on the treatment of cancer of the uterus by the internal administration of Chian turpentine is certain to lead to a sudden and large demand for this substance.

Under these circumstances it does not seem to me impertinent to remind the profession that genuine Chian turpentine is hardly to be met with at present in the English market. What is sold as such is either greatly adulterated or a wholly factitious article manufactured from black resin, Canada balsam, and the essential oils of fennel and juniper.

Many disappointments and discrepancies may perhaps be avoided by keeping this fact in mind in ordering, and exacting an assurance from the wholesale chemist that what is supplied is, the genuine, unsophisticated, Levantine product. I am, Sir, yours, &c.,

Blackpool, March 28th, 1880. WM. HARDMAN.

*** See our remarks on this subject elsewhere.—ED. L.

THE NAVAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—It appears to me that some at least of your suggestions in regard to the Medical Service of the Royal Navy would only tend to make complication more complicated. I speak more particularly of the number of examinations a medical man would have to undergo after he has become fully qualified to practise his profession.

Take, for example, an ordinary College and Hall man. He has to pass separately his "Prelim.," first Hall, first College, final Hall, and final College—*five* in all; then if he enters the Navy he will have to pass first at the Admiralty, then go to Netley for a term, at the end of which another examination confronts him—making *seven* before he is fairly launched in the service; next, after four or six years' service, he has to go back to "school" at Netley, attend a course of lectures and pass another examination; and after ten or twelve years more he passes his "final," and has done with examinations (at least as far as this world is concerned)—making a total of *nine*.

If by this means you think you will benefit either the profession or the Navy, all I can say is I don't agree with you; on the contrary, I believe that a man qualified to practise medicine and surgery is fit to do his duty in any part of the world, assisted by a good library, so that he may look up any particular diseases incidental to certain climates, which any one would naturally do.

In conclusion I will remark, that there are men of retentive memories, but possessing few other faculties, who would pass examination after examination and be of as little use afterwards as they were before. Original genius is rarely the property of the dull plodder, for as a rule he is little more than a copy of the books he has read.

I remain, Sir, yours truly,

CANDIDATE.

*** We have not advised any additional examinations. As the matter stands, there are those which every student must undergo for qualification to practise medicine and surgery; then for the public services there are the competitive examinations for entry to, and after special tuition at, Netley. Beyond these there is in the navy the final examination for promotion to the rank of staff-surgeon. Relying on the opinions of officers of standing in the service, we believe it would not be judicious to relax the present regulation for the last, of which it is even said that, had it existed in the army also, the greatest of all late difficulties in that service would have been precluded. In order to give the navy surgeon the best means of preparation for it, we have suggested that he should, while on full pay, be allowed to attend a Netley course, which at mature age would be, as we think, of still greater value than the actual course before admission. We would recommend candidates not to dwell too much on the requirements to afford proof of having maintained their professional knowledge, for at least a few years, up to the standard exacted from them at the termination of their pupilage, and to remember that the best of practitioners never cease to be students.—ED. L.

To the Editor of THE LANCET.

SIR,—The Naval Medical Service is now in the very perils of parturition, and THE LANCET is acting the part of a kind and skilful accoucheur. It is to be hoped that more than a "mus ridiculus" will be born. There is one point that particularly interests me, and all of my rank, and that is, that in carrying into effect this compulsory retirement of fleet surgeons at fifty-five instead of sixty years of age, we may not be treated in the same arbitrary and uncompensated style as our seniors were in 1875, forming a blot on the administration that undermined all confidence of thinking officers in its good faith. Hoping you will afford a constant reader room for this,

I remain, Sir, yours, &c.,

ONE OF THEM.

TRANSVERSE DEPRESSIONS ON THE NAILS.

To the Editor of THE LANCET.

SIR,—I am glad the communications of Dr. Thin and Dr. Dyce Duckworth have drawn attention to the clinical and forensic importance of transverse depressions on the nails. Many years ago Professor Sanders showed me these furrows in the Edinburgh Royal Infirmary, and I have been accustomed since to look for them in the patients who have come under my care. I agree with Dr. Duckworth that "there is a rather more rapid formation of nail than that of two complete growths in a year." From my own observations I should say that from three to four months are usually occupied in the passage of a furrow from the lunula to the end of the nail. These grooves are very common. They are sometimes to be seen on all the finger-nails; often they occur only on the thumb-nails. If a person's nails be free from transverse furrows, we may conclude, almost with absolute certainty, that he has not had a serious illness in the last three or four months. I have found three or four of these depressions, equidistant and parallel, on the thumb-nails of women who are the subjects of dysmenorrhœa—a furrow marking each painful "period."

I am, Sir, your obedient servant,

JAMES SAWYER, M.D. LOND.

Birmingham, March 29th, 1880.

PARIS.

(From our own Correspondent.)

SINCE the beginning of the present year eight hundred persons have died of small-pox in Paris, and this number represents a twentieth of the whole mortality. At present the epidemic shows no signs of abatement, the week ending March 18th giving about the same average in an aggregate of sixty-six deaths from this cause. A more opportune moment could scarcely have been chosen for the presentation of a Bill to make vaccination compulsory in France, and if the Parliament sanctions the *project de loi* which has been placed on the table of the Chamber of Deputies by Dr. Lionville, the epidemic will have been a means to the end of making France the best vaccinated country in the world. The proposed law consists of ten clauses, which are as follows:—1. Vaccination is compulsory; it must be performed during the first six months of existence. 2. Revaccination is compulsory every ten years; in the 10th, 20th, 30th, 40th, 50th years of the person's age. 3. When a birth is registered, a vaccination paper (*bulletin de vaccine*) will be given to the parties registering, and this must be returned within six months, stating the result of the vaccination, and signed by a medical practitioner of the locality. The signature must be *visé* by the authorities (*légalisée*). 4. The vaccination paper must be shown to the registrar every ten years, and must bear the mention of the subsequent revaccinations. 5. Parents and guardians as well as those convicted of infringing the 3rd and 4th Clauses of this Act, are liable to a fine of from 1 to 25 francs, and on a second conviction to a fine of from 25 to 100 francs. 6. This vaccination paper must be presented before entrance into a primary, secondary, or higher school, and also for the army and civil services. 7. Infractions of the preceding clause are punishable by Clause 5. 8. The registrars shall make a list of those whose certificate is in default each year, and this list shall be sent in to the magistrates, and the offenders prosecuted. 9. A *règlement d'administration publique* shall provide for the execution of this law, conformably to the royal ordinance of December 20th, 1820, the Ministerial decree of July 16th, 1823, and the decrees of August 10th, 1848, and October 7th, 1879. 10. The present law shall come into force within a year after its enactment. It is probable that some parts of this Act will be modified in the Chamber. It will be difficult, for instance, to apply the 4th Clause in its full rigour to those not revaccinated who have changed their place of residence, and more especially in large towns where it is of greater importance that no material for small-pox should be found. There is no doubt, however, that the fate of the proposed law will be decided on its merits. In sanitary matters the French are slow—much behind some of her neighbours; but when matters are under consideration they are generally referred to and decided by competent authority, unmindful of the agitation raised by leagues and societies of mischievous fanatics, too often mistaken in England for public opinion.

In spite of the Academy of Medicine, which officially condemned the project a few years since, the municipal authorities have decided to establish a model nursery in connexion with the Children's Hospital to experiment the system of *allaitement artificiel*, and the direction of this will be given to Professor Parrot. The high infantile mortality of Paris is a standing scandal. The number of deaths per annum amongst

children under a year old in Paris averages 338 per 1000, but last week it attained the proportion of 585 per 1000, mostly due to gastro-enteritis and "athrepsia." These are in many instances the technical expressions for improper and insufficient feeding, and it will be well if the lower classes can be taught that children who cannot suck may still be able to swallow.

At the Academy of Medicine it was announced that the widow of the late Professor Louis had left by will a sum sufficient to found a triennial prize of 8000 francs. This is to be awarded for work in therapeutics. Dr. Clement of Lyons claims to have used a cooling apparatus for the last three years analogous to that described by M. Dumontpallier, and which was the subject of an article in THE LANCET of the 27th of March, but, according to the secretary of the Academy, who has examined into the matter, there are essential differences between the apparatus of the two claimants. Apropos of a communication made at the preceding meeting by M. Jules Guérin, about a lady whose tricepe femoralis was ruptured, and who, after having been treated by a distinguished surgeon in Paris by mistake for arthritis, consulted him, and had an elastic appliance fitted, which restored the power of extension, M. Tillaux said that he had seen the lady in question for arthritis, and maintained the correctness of this diagnosis. M. Guénnau de Mussy added, that it had come to his knowledge through the attending physician, that the patient was incapable of walking whilst in M. Guérin's apparatus, but since she had taken it off and resorted to *massage* she has been able to walk. To which M. Guérin replied, that she cannot, nor will she ever walk again. This is a specimen of an Academy "discussion."

Obituary.

HENRY EDWARD FRIPP, M.D., M.R.C.P.

THE medical profession of Bristol has sustained a severe loss by the sudden death, on March 23rd, of Dr. Henry Edward Fripp, in his sixty fourth year. While standing by the bedside of a patient on the previous night Dr. Fripp was seized with hemiplegia, which proved fatal within a few hours by the extension of the hæmorrhage towards the medulla.

Dr. Fripp was born in 1816, and passed through his curriculum at the Bristol Medical School, being a pupil of the late Dr. Symonds, at the Bristol General Hospital. In 1838 he became a member of the Royal College of Surgeons, and then began practice in Wales as medical officer to the iron works at Ynisedwyn, near Swansea. Shortly after this he went to Germany as medical officer to the iron works at Nisterthal, in the Duchy of Nassau. By nature a mechanical genius, Dr. Fripp took so great an interest in these works that, in addition to his professional responsibilities, at the request of the directors, he accepted the office of chief engineer, and held this post till 1848, when these works were closed owing to disturbances consequent upon the unsettled state of the political atmosphere. After this Dr. Fripp spent some years on the Continent in medical and scientific study and research, and in 1855 took the degree of M.D. at Würtzburg. While abroad he worked for some considerable time under Kölliker. In 1856 he obtained the Membership of the Royal College of Physicians of London, and settled in Clifton as a physician. He was soon elected physician to the Bristol General Hospital, and held this post till 1873, when he was made consulting physician to this institution. He occupied the chair of physiology in the Bristol Medical School from 1857 to 1869.

Dr. Fripp was an active member of the various local medical and scientific societies. For some years he was president of the Bristol Naturalists' Society, in the proceedings of which Society he always manifested great interest and took a leading part. He also held the post of president of the Bristol Microscopical Society. During the year 1878-79 he was president of the Bristol Medico-Chirurgical Society, and his inaugural address was a learned dissertation on "The Doctrine of *Contagium Vivum* in its Relation to Parasitic Disease." Under his auspices the first volume of the Transactions of this Society was published.

Dr. Fripp was well known for his great scientific learning and practical knowledge. A most able physiologist and pathologist, there were probably but few men in this country whose acquaintance with the microscope was so thorough. The following list of some of his published papers will best indicate the nature of his knowledge of this instrument—communicated to the Bristol Naturalists' Society: "On the Physiological Limits of Microscopic Vision;" "On Aperture, and Definition of the Microscope Object-Glass;" "On the Limits of the Optical Capacity of the Microscope" (translated from Helmholtz); "Is there a Science of Microscopy?" In his hands the microscope was not merely an instrument by means of which certain things could be demonstrated, but he brought to bear upon it a profound knowledge of the physical laws which govern and modify and limit its revelations. In the department of Natural History Dr. Fripp was an original and enthusiastic writer. Amongst his various papers are the following (communicated to the Bristol Naturalists' Society): "On Insect Anatomy," "On Insect Sounds," "On the Faculty of Hearing and the Tympanic Organ of certain Orthoptera."

Dr. Fripp was a great lover of music, and was himself an accomplished musician, and as an illustration of his mechanical skill it may be mentioned that he possessed an organ which he had himself built.

As a physician Dr. Fripp had a well-earned reputation for skill and acumen. Amongst the members of his profession his uniform genial kindliness made him a universal favourite, and to his patients he was not only the able physician in whose hands they placed themselves with the utmost confidence, but the beloved friend to whom they looked and on whom they relied.

JAMES HINDMARSH BARNES, L.R.C.P. EDIN., M.R.C.S. ENG.

THE lamented death of this esteemed practitioner took place on the 19th ult. at his residence, Pembroke-place, Liverpool, at the early age of forty-seven. His fatal illness was the result of blood-poisoning, contracted thirteen years ago while attending professionally upon a syphilitic patient at the workhouse infirmary, and which not only prevented him from following his profession, in which he was taking a foremost place, but, in spite of the advice and treatment of some of the leading medical men of the day, caused him for years to endure great physical suffering. He was seen at various times by Mr. Jonathan Hutchinson, Dr. Hughlings Jackson, Mr. Berkeley Hill, and others, all of whom were much interested in his case. The deceased gentleman published a pamphlet describing the various symptoms of his disorder, which was read before the Medical Society at Liverpool; and in 1874 he was appointed superintendent registrar of Liverpool, as some compensation for the injuries he had received, which post he has only retained five years. Mr. Barnes was the second son of a medical man at Bath, and for some time held the post of consulting surgeon to the workhouse, succeeding Dr. Fletcher in that office. He was much respected not only for his professional ability, but for his genial and intellectual qualities.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 25th:—

Honman, Andrew, Weymouth-street.
Newnham, Ernest Edmund, Charing-cross Hospital.
Permewan, Arthur Edward, Redruth.
Rout, Charles, Silwood-place, South Kensington.

The following gentlemen on the same day passed the Primary Professional Examination:—

Joseph Adams, Edinburgh Royal Infirmary; Charles Robert Crane, Charing-cross Hospital.

THE Hospital for Imbeciles and Lunatics at Darenth will, it is announced, be opened for the reception of patients some time in the present month.

SMALL-POX is said to have appeared in Aberdeen. The cases already reported, three in number, have been removed to the hospital for infectious diseases in the town.

DR. G. R. BARNES, medical officer of the Ewell district of the Epsom Union, has been awarded a gratuity of £10 10s. for extra services consequent on the recent fever epidemic at Ewell.

THE salary of Dr. Pitt, medical officer of District No. 1 of St. George's in the East, has been increased to £280, in consideration of the additional area included in his district.

AN examination for cadetships at the Royal Military College, Sandhurst, is announced to take place at the University of London, on Monday, July 5th, and following days, the first day being devoted to the medical examination of the candidates.

IN the North-West provinces and Oudh during the past year (says the *Bombay Gazette*), 1051 persons and 7214 head of cattle were killed by wild animals, and 3168 persons died from snake bites. Wolves and leopards were most destructive, both among men and cattle. The total number of wild animals returned as destroyed is 4495, and the number of snakes killed is set down as 1697, the amount paid in rewards for their destruction being about Rs. 11,000. The number of snakes returned as destroyed (1697) gives a very imperfect representation of the number actually killed.

SUNDAY LECTURE SOCIETY.—In connexion with this society, a lecture is announced to be delivered at St. George's Hall, Langham-place, on April 4th, at four o'clock, by Dr. Spencer Cobbold, F.R.S., on "Trichinosis, and on the dangers arising from the consumption of Flesh Food."

BRISTOL EYE HOSPITAL.—The report of this Charity, read at the sixty-ninth annual meeting of its friends and subscribers, stated the number of fresh cases treated during the past year as 2592, 2535 out-patients and 57 in-patients. The total number of recipients of the benefits of the hospital since its establishment amounted to 83,514.

THE ABERDEEN HOSPITAL FOR INCURABLES is doing a good, though unostentatious, work. Thirty-one patients were enjoying its welcome succour at the beginning of the present year. The total expenditure during the twelvemonth had been £707 12*s.*, and £1200 had been added to the endowment fund, which now amounts to £12,000.

QUEEN'S UNIVERSITY IN IRELAND.—At a meeting of the Senate, held in Dublin Castle on Tuesday, the 30th ult., the following were elected examiners in the undermentioned subjects:—In Medicine: Professor O'Connor. In Surgery: William Thomson. In Midwifery: William K. McMordie. In Materia Medica: G. F. Duffey. In Medical Jurisprudence: M. O'Keefe.

ST. JOHN'S AMBULANCE ASSOCIATION.—It is reported that several new centres in connexion with this Association are in course of formation. Among the latest established, that of Dublin is likely to prove a great success. Altogether there are now seventy-seven centres in different parts of the United Kingdom, besides fifty-nine detached classes formed pending the institution of regular centres.

DEVONSHIRE HOSPITAL, BUXTON.—In recognition of Dr. Robertson's assiduous services to the institution, the committee of management of this hospital propose to complete the buildings of the hospital, now in course of extension, under the grant of £24,000 from the Governors of the Cotton Districts Convalescent Fund, by the erection of a portico and clock tower at the principal entrance, and an additional lodge, essential and integral parts of the plan of the architect, in accordance with the strongly and repeatedly-expressed wish of Dr. Robertson, consulting physician to the hospital, and chairman of the board of trustees and committee of management.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

ANDREWS, Mr. T. M., has been appointed Medical Officer for the Workhouse of the Pontardawe Union.

BENTLEY, C. E., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Kirton District of the Boston Union.

BLACKER, E. J. L., M.D., has been appointed Medical Officer to the B District of the Thrapstone Union, vice Bird.

BLOOD, Mr. F. W., has been appointed House-Surgeon to the Bucks Infirmary.

BROOKFIELD, J. S., B.A., M.D., has been appointed one of the Honorary Physicians to the Kilburn, Maida-vale, and St. John's-wood General Dispensary, vice Gawith, resigned.

COOPER, W., F.R.C.S.E., has been appointed Consulting Ophthalmic Surgeon to the Hospital for Epilepsy and Paralysis, Regent's-park, vice Wells, deceased.

DONOVAN, J., M.D., has been appointed Medical Officer to Skibbereen Dispensary and Workhouse, vice Donovan, deceased.

GEORGE, G. A., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for the Workhouse and the Dorchester District of the Dorchester Union, vice Emson, resigned.

HARGREAVES, M. K., M.B., C.M., has been appointed Resident Assistant Medical Officer to Shoreditch Infirmary, vice F. H. Walmsley, M.D.

LUNDY, L. F., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Sunbury District of the Staines Union.

MACGREGOR, P., L.R.C.P.Ed., has been appointed Medical Officer to the Crossland Moor Workhouse, Huddersfield Union, vice Rhodes, resigned.

MCLINTOCK, J., M.B., C.M., has been appointed Medical Officer for the two Marsden Townships of the Huddersfield Union, vice Heslegrave, deceased.

MURRAY, Mr. H., has been appointed House-Surgeon to the Royal Westminster Ophthalmic Hospital, vice Martin, whose term of office has expired.

STURGE, A., M.D., has been appointed Physician to the Hospital for Epilepsy and Paralysis, Regent's-park, vice Clarke, deceased.

TAYLOR, M., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Workhouse of the Cannock Union, vice Blackford, resigned.

TITLEY, J., M.D., L.R.C.S.Ed., has been appointed Medical Officer for the Broughton District of the Glanford Brigg Union.

WALMSLEY, F. H., M.D., has been appointed Resident Assistant to Leavesden Asylum.

Births, Marriages, and Deaths.

BIRTHS.

BAKER.—On the 19th ult., at The Cedars, Tenterden, Kent, the wife of Charles Eaton Baker, M.R.C.S.E. &c., of a son.

DEANE.—On the 23rd ult., at 42, Albion-road, Stoke Newington, N., the wife of John Deane, M.R.C.S.E., L.R.C.P.Ed., of a son.

DICKSON.—On the 20th ult., at 33, Albany-street, Edinburgh, the wife of Frank K. Dickson, F.R.C.P.E., of Wye House, Buxton, of a son (Francis Henry).

LYLE.—On the 23rd ult., at Westbourne-square, Bayswater, the wife of William Vacy Lyle, M.D., of a daughter.

PILGRIM.—On the 20th ult., at Bridge-road, Leighton Buzzard, the wife of Forster John Pilgrim, of a son, which survived its birth but a few hours.

SALT.—On the 26th ult., at Egremont, Bournemouth, the wife of Henry Salt, M.D., of a daughter.

WALKER.—On the 28th ult., the wife of Arthur de Noé Walker, M.D., of a son.

MARRIAGES.

HODSON—WIENHOLT.—On the 20th ult., at St. Paul's, Herne-hill, Henry Algernon Hodson, M.R.C.S.E., L.R.C.P., of Bovey Tracey, South Devon, to Sarah Wormald, only child of William Wienholt, Esq., J.P., of Llanwern, Monmouthshire.

MARRIAN—WATKINS.—On the 17th ult., at the Parish Church, Wellington, by the Vicar (the Rev. Thomas Shepherd), James R. Marrian, L.R.C.P.Ed., of Birmingham, to Eliza, elder daughter of the late Richard Watkins, Esq., of Adzor House, Wellington, in the County of Hereford.

VIVIAN—SUGDEN.—On the 31st ult., at St. Paul's, Winchmore-hill, by the Rev. A. C. A. Drought, M.A., Vicar, assisted by the Rev. James Baird, M.A., Vicar of Southgate, R. T. Vivian, Surgeon, of Chase Side, Southgate, to Annie, daughter of Samuel Sugden, Esq., of Oak Lodge, Southgate, N.

DEATHS.

ADAMS.—On the 30th ult., at Eastham-street, Bungay, Suffolk, from acute pneumonia, Edward Burman Adams, M.R.C.S.E., L.S.A.L., aged 54.

BARLOW.—On the 18th ult., at Norfolk House, Albion-road, Dalston, Matilda Mary Ann (Mary), wife of Robert Barlow, M.R.C.S.E. Friends will kindly accept this intimation. Colonial papers, please copy.

CORBETT.—On the 25th ult., at the Garrison Hospital, Haalar, Brigade-Surgeon A. P. M. Corbett, M.D., aged 49.

HEATON.—On the 25th ult., at Stockwell House, Leek, Charles Heaton, M.D., in his 64th year.

KINGSTON.—On the 27th ult., at his residence, Sunnylands, Bath, Strickland Kearney Kingston, M.D., in his 78th year.

NASH.—On the 24th ult., at his residence, Pulteney-street, Bath, Joseph Nash, M.D., also of Brockley Hall, near Bristol, and Major 1st Somerset Volunteer Engineers, aged 58.

PILGRIM.—On the 24th ult., Charlotte Madeline (Lottie), the beloved wife of Forster J. Pilgrim, and daughter of the late G. S. D. Harris, Surgeons, both of Leighton Buzzard.

ROBINSON.—On the 28th ult., of typhus fever, after a short illness, Samuel Robinson, M.R.C.S.E., of Skibbereen.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, April 1st, 1880.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 26	30·04	E.	51	45	93	63	38	..	Bright
,, 27	30·15	E.	40	38	65	49	34	..	Overcast
,, 28	30·08	S.E.	41	38	68	46	34	..	Overcast
,, 29	29·97	S.W.	35	35	72	58	32	..	Foggy
,, 30	30·00	W.	43	41	72	58	32	..	Foggy
,, 31	29·61	S.W.	50	47	77	57	36	..	Bright
April 1	29·50	N.W.	46	43	80	54	41	0·17	Cloudy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

"HOW A FLOWER MISSION WAS STARTED IN BIRMINGHAM."

THE above is the title of a small pamphlet published by Caswell, 200, Broad-street, Birmingham, giving particulars of the Flower Mission established in that town by the benevolent lady who writes under the initials H. R. During a six months' visit to America she saw the working of a Flower Mission in Chicago, and on taking up her residence in Birmingham began, in a small way at first, to imitate her American sisters. The work soon became known and talked of, and she was then able to proceed on a larger scale. A room in a central music warehouse was kindly placed at her disposal by the proprietors, and here the kind foundress and her band of willing workers meet every Friday. The first day, May 9th, 1879, seven ladies met, and, with the flowers kindly given by friends, made up forty-two bouquets, each with a card attached, on which a text was clearly written, and these were at once distributed to the different hospitals. More and more interest was taken in the benevolent scheme, and an ambulance of flowers has each week been sent. There is no lack of helpers, and on December 24th, the last day of meeting for the year, thirteen ladies made up 853 little bouquets, each with a Christmas card attached, which were distributed to six hospitals, five almshouses, three workhouses, two missions, and to the sick poor in twelve parishes. Nobody who has been in the habit of visiting invalids can have failed to see how much pleasure a few flowers give; and when we find that in the nine months the Flower Mission has been at work in Birmingham no less than 10,796 bouquets have been distributed, we can form some idea of the good work being done, and of the brightness that has been carried to hundreds of bedsides. So many people living in the suburbs of our large towns have flowers to spare for many months in the year, and the trouble of leaving or sending them to some central place once a week is so little, that we cannot but think the example of the ladies of Birmingham will be followed in other towns.

Mr. W. Freeborn.—We can only refer to our advertising columns.

FACTORY SURGEONCIES.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me if I have any right of appeal under the following circumstances? About a month ago the factory surgeonship for the township in which I reside became vacant. I made application for the office, but was passed over in favour of a practitioner residing in a neighbouring village, two and a half miles distant, and possessing the single qualification, L.S.A. I may mention that I have been practising for rather more than a year, and am the only registered practitioner in the village. Yours &c.,

March, 1880. J. M.

MEDICAL CO-OPERATION IN THE UNITED STATES.

A MOVEMENT has been set on foot in San Francisco for the establishment of co-operative dispensaries, owned and supervised by prominent physicians. A number of these gentlemen, say ten or twelve, whose "offices" are in the same neighbourhood, associate for the purchase of a stock of drugs, rent a room, and employ a competent pharmacist, whose duty consists in simply making up their prescriptions. "The advantages to the physician of thus dispensing his own medicines," says the *Western Lancet*, "is unquestionable."

M.D.—Sir Trevor Lawrence, Bart., one of the Conservative candidates for Mid-Sussex, is the only son of the late Sir William Lawrence, under whom he received his professional studies at St. Bartholomew's Hospital, and was admitted a member of the Royal College of Surgeons in 1853.

Dr. A. Sheen.—We have no recollection of the paper.

"SHEEP ROT."

To the Editor of THE LANCET.

SIR,—Allow me space for a few remarks in reference to your annotation on "Sheep Rot" in your issue of March 13th.

You say "that 'rot' is in reality due to the presence in the liver and hepatic canals of numbers of Distoma." I have never seen "flukes" in the live—i.e., in its structure; neither have I seen any sign of their having been located there. I have only seen them in the bile-ducts, which are undoubtedly their natural habitat, and to which they, doubtless, gain access by means of the common biliary duct. At least this would seem to be a more natural mode of access than by burrowing, as it is sometimes asserted they do, through the coats of the stomach, or by passing through the circulation to the liver. You also observe "that the parenchyma of the liver becomes atrophied from the compression the 'flukes' exercise upon it." Now, if this were the case, we should expect to find the amount of parenchymal disease bearing some proportion to the number of "flukes" in the biliary ducts; but this, practically, is not by any means a universal fact—frequently quite the contrary. There can, I think, be little doubt that the embryonic flukes find their way to the extreme peripheries of the ducts, and during their subsequent development set up a large amount of irritation and inflammation of the parietes of the canals and of the contiguous liver structure, which quickly leads to blocking up of the minute biliary outlets, and thus prevents the flow of bile into its natural channel, hyperæmia of the greater part of the liver being established, followed primarily by hypertrophy, and secondarily by atrophy and cirrhosis. In this form of verminous hepatitis, another result of inflammation—viz., fatty degeneration—is often seen.

Lastly, as reference has been made in several publications to the existence of "fluke disease" in the horse, I may observe that it has not been my lot as yet to discover a single specimen of Distoma in the liver of that animal, though I am quite prepared to admit that in colts feeding on contaminated pastures there is no physiological or other reason why they should not become infected; but I rather fancy the difference in the structure of the stomach of the horse as compared with that of ruminants would make it less favourable to the lodgment and further development of the "flukes." Cattle, both foreign and native, are frequently the subjects of "fluke disease"; but the influence it exerts upon them is far less deleterious than in the case of the sheep, owing to their greater constitutional strength, and to the fact that the entozoa are usually fewer in number, and a large extent of chronic liver disease may exist in the ox—as seen in hydatid disease and tubercle—without materially influencing the nutrition of the animal's body.

Your obedient servant,

THOMAS WALLEY,

March, 1880. Principal, Royal Veterinary College, Edinburgh.

Juvenis.—1. Yes, with moderate care and prudence.—2. Lodging money and servant's allowance, estimated at about £60 per annum.—3. Probably about £60.—4. No. The money allowance is the same. Quarters, when provided, are given according to rank.

Mr. Jas. Maitland.—We know nothing of the medicine named.

THE OPERATION OF TURNING IN MIDWIFERY.

To the Editor of THE LANCET.

SIR,—I believe that many young and inexperienced obstetric practitioners, as well as not a few old and experienced ones, are deterred from attempting the operation of turning with only one or two fingers in the uterus by the impression that the procedure is difficult and success unattainable, save by an expert such as Dr. Barnes or Dr. Braxton Hicks. Such an impression is erroneous, and probably tends to the loss of many lives. In my last five cases of turning I have successfully adopted the method referred to. In four of the cases there was not the slightest difficulty, and even external manipulative aid was unnecessary. In the fifth case contraction of the uterus and escape of the liquor amnii necessitated a little patience and also assistance from without, as directed by Dr. Barnes. The advantages of this method of turning are well known. Above all, risk to the mother—the most important of obstetric considerations—seems reduced to nothing, and the numerous cases in which turning is desirable before the os uteri will admit the operator's hand are successfully met. I am, Sir, yours &c.,

Shipley, Yorkshire, March, 1880. W. J. SMYTH, M.D.

A FOREIGN BODY IN THE EYE FOR TWENTY-THREE YEARS.

DR. J. S. CHISOLM, of Baltimore, publishes, in the *Boston Medical and Surgical Journal*, a case in which a fragment of metal remained in the eye for twenty-three years without producing sympathetic ophthalmia. The patient, when a lad of sixteen, sustained the injury by the explosion of a gun-cap, a part of which struck him on the eye, cutting the cornea, and causing irido-cyclitis, through which inflammation the eyesight was lost. The irritation, however, subsided, and the organ, retaining almost its normal appearance, remained in a passive state till the man attained the age of thirty-nine, when he presented himself for treatment. The eyeball was then partially atrophic, somewhat corrugated, the cornea smaller than natural, but clear, and surrounded by a zone of ciliary injection, with some large sub-conjunctival vessels advancing from the back of the eye to the corneal border. The pupil was closed by old deposit, and upon the iritic surface near the centre was a yellowish-white spot about two lines in diameter. The organ was painful and very sensitive to the touch. The left and sound eye gave evidence of irritation. Extirpation was performed under chloroform. On examining the iris, especially with reference to the glistening spot upon its anterior face, a fragment of the cap was found imbedded in lymph.

Staff Surgeon.—Lieut. Charles Fergusson, who has just arrived in London with the loss of an eye, is the youngest son of the late Sir William Fergusson. The ball entered between his eyebrows, wounding the nose, and completely destroying the right eye.

TREATMENT OF PUERPERAL CONVULSIONS.

To the Editor of THE LANCET.

SIR,—I read the case of puerperal convulsions during labour, under the care of Dr. King, in last week's LANCET with much interest, especially as I had a somewhat similar case a few days since, and which unfortunately ended fatally.

In my case the convulsions set in two hours after labour. The person in question was a young woman, aged twenty-two years, the wife of a labourer, and her first confinement. The labour lasted about ten hours without any untoward symptom whatever, and the placenta came away in ten minutes after the birth of the child easily, and without any loss to notify. I left the woman doing well, cheerful, and with every prospect of continuing so. However, in about two hours, quite unexpectedly, convulsions having commenced, I was speedily sent for, and finding the pulse hard and full, face congested, and accompanying stertorous breathing, with partially dilated pupils, I immediately bled her, and ordered mustard poultices to the neck, calves of the legs, and cold applications to the head. This so far succeeded as to arrest the attacks for three hours, when they set in again. I had recourse to a further abstraction of blood, and gave her ten grains of calomel and one drop of croton oil, which relieved the bowels well twice. Notwithstanding the remedies, I regret to say the woman died in about twelve hours from the beginning of the attacks. I must add that she was of a plethoric habit, short-necked, stout, &c.

My chief reason for troubling you with a recital of this case is to bring before the profession for their opinion the following question:—Whether an hypodermic injection of morphia and atropia would have been appropriate treatment? having found such most effectual in arresting the most violent epileptic convulsions, the patients, in fact, being so violent as to require four persons to hold them down previous to inserting the injection; then the convulsions ceased immediately, and sleep for a few hours quite restored and refreshed the sufferer. Would it be prudent to adopt the same treatment in puerperal convulsions?

Yours truly,

Sarratt, Watford, March 29th, 1880. J. WRIXON, M.R.C.S.E., &c.

To the Editor of THE LANCET.

SIR,—In reference to the letter of Dr. King, on the subject of Puerperal Convulsions, which appeared in your last issue, I beg to instance a case lately under my care, in which a different treatment was tried.

The subject was a young woman, in fair health, pregnant with her first child, and three weeks short of her full time. I was called at 3 A.M., and found her in a state of eclampsia; her face livid, and frightfully distorted; pupils dilated; breathing loud and stertorous; the convulsions strong, unintermittent, and uniformly from the right to left side. On examination I discovered the os undilated. As the patient was totally unable to swallow, I ordered sinapisms to the calves and cold applications to the head, with the only result of slight mitigation of the symptoms. Calomel was tried on the tongue, but no deglutition was possible. The convulsions continued through the day, recurring about every quarter of an hour. In the afternoon I applied three or four leeches to the right temple, and, as the friends objected to chloroform, I prescribed an injection of chloral hydrate, forty grains, which was administered in the evening. A complete cessation of the convulsions ensued and a tranquil calm. Labour now set in, the os becoming normally dilated, and at 5 A.M. she was naturally delivered of a dead child. Unconsciousness continued for two days. I administered bromide of potassium in fifteen to twenty grain doses thrice daily for a few days, subsequently tonics. She made a good recovery. I might add that her father is a confirmed epileptic.

I am, Sir, yours obediently,

St. Faiths, Norwich, March, 1880. J. HAWKES, M.D.

THE DARMSTADT ALICE HOSPITAL.

THE *Quiver* for April contains the following brief account of this institution:—

"In an out-of-the way corner of the town, seldom or never visited by an ordinary tourist, stands a house in the Manor Strasse which will ever be associated with the loved memory of the Princess Alice. Hither the Princess would come herself, unattended, constantly to see how the work of the place was going on, and to speak words of encouragement to the nurses, and read the word of Eternal Life to the poor and weary sufferers. The history of this institution is brief and simple. The late Princess Alice, Grand Duchess of Hesse, founded an institution named the Alice Frauen-Verein, or, as we should call it in English, the Ladies' Society. It embraces a school for training girls in industrial pursuits, an institution for orphans, and this hospital and school for training nurses. When the lamented Grand Duchess determined, in 1867, to organise a school for training nurses, there existed in the Manor Strasse an old house, which had for some years been used as a small private hospital by some rising young physicians, who were anxious to have a place where they could themselves treat any poor cases which otherwise should have gone to the town hospital, and so passed out of their hands. These gentlemen made over the hospital to the Alice Frauen-Verein in 1867, after the war between Prussia and South Germany. In 1870, when the funds subscribed in England for the relief of the sufferers in the Franco-German war had been disbursed, there remained a considerable balance, and, through the influence of the Grand Duchess, it was arranged to devote this balance to building an addition to the old house, where the Training School for Nurses could exist in connexion with the hospital."

Mr. G. H. Macnamara.—Our abstract in English of M. Richet's paper was made from the original French. There is no English translation so far as we are aware.

An Intending Candidate should make application to the Secretary of the Brussels Medical Graduates' Association, Dr. Pocock, 20, Golborne-road, Upper Westbourne-park, W.

THE TREATMENT OF LATERAL CURVATURE OF THE SPINE BY ELONGATION.

To the Editor of THE LANCET.

SIR,—On reading the essay[1] on which I subjoin a few notes, I was much struck with the coincidence between the views expressed and those of Dr. Sayre. Mr. Stafford not only recognises the rotary displacement of the vertebræ, but figures a machine for the treatment of the patient by suspension. In the preface he says that the essays are part of the Jacksonian Prize of the Royal College of Surgeons, and adds: "In lateral curvature I flatter myself I have simplified and offered an original method of treatment—a method which at once takes these cases out of the hands of the charlatan and pretender, and places them in the power of the profession at large. I have only to add that my experience has proved the utility of the plan adopted."

In the essay (No. 2) he attributes lateral curvature to the inability of the spinal column to support the weight of the head and trunk. He recognises primary and secondary curves and their relation to the maintenance of gravity, and states that the primary curve is usually lumbar, but occasionally dorsal. He remarks that the cause of weak spine is deficient spinal muscle, which he attributes to the use of artificial support, and advises that girls be left without stays till they arrive at the age of fourteen or fifteen, so that all the muscles of the frame should be allowed their freest play. He calls attention to the shortening of the trunk and rotary displacement of the individual vertebræ: "In very bad cases of lateral curvature the bodies of the vertebræ are so thrown out of their situations that they are, as it were, rotated on the intervertebral substances, and instead of their anterior surfaces looking forward, they are turned laterally." After referring to the usual gymnastic exercises, and particularly exercise of the weak side, he describes and figures a machine, which he terms the "lateral rocker," which he says should be employed at least three times a day for a quarter or half an hour at a time. He details five cases of success with this machine. In addition to this, he says: "Lateral exercise, however, will not always recover a lateral curvature.... More must be done. The spine itself must be elongated, and the best method of accomplishing this is by gravitation of the body. To effect this object I have invented a machine, by which the patient can be raised up from the ground by the upper part of the body, while the lower part hangs suspended." This he calls his "spine elongator." The machine consists not only of axillary supports, but of head and chin supports; in fact, his "spine elongator" is in every respect similar to Sayre's, excepting its tripod form. He only details two cases of its use, but says: "Several other cases of the same description, which it would be tedious to relate, and only repeating the same facts, I have treated in the same manner, and with equal success." It appears to me that these essays are well worthy of a more general recognition.

I am, Sir, yours &c.,

Guernsey, March 29th, 1880. JOHN AIKMAN.

[1] Two Essays on Diseases of the Spine. (1) On Angular Curvature of the Spine and its Treatment. (2) On the Treatment of Lateral Curvature by Gravitation, Lateral Exercise, &c. By R. A. Stafford, F.R.C.S. Eng., Surgeon Extraordinary to H.R.H. the Duke of Cambridge, &c. London: Longmans. 1844.

THE LATE DR. FAIRBANK.

IT should have been mentioned in our obituary notice of the late Dr. Fairbank (see THE LANCET, March 6th) that Dr. Ellison, who was in partnership with Dr. Fairbank, was appointed, jointly with the latter gentleman, as surgeon to Her Majesty's Household.

J. W. R.—1. Ranald Martin, or J. A. B. Horton on Tropical Diseases.—2. Sir J. Fayrer on the Relation of Filaria to Endemic Disease in India (THE LANCET, Feb. 8th and 15th, 1879).

A CASE ILLUSTRATING THE PATHOLOGY OF HERPES ZOSTER.

To the Editor of THE LANCET.

SIR,—The view usually held as to the pathology of zona is, as is well known, that the eruption is due to some irritation propagated along the course of the sensory nerves supplying the skin, and originating, according to von Barensprung, in the ganglia in the posterior roots of the spinal nerves. Trousseau, following Bazin, describes (very imagrely) a form of the affection, to which he gives the name of "arthritic zona," and which he considers to be rheumatic in its origin, and Hebra appears to hold a similar view. In the following case no history of rheumatism could be elicited, nor was the joint effusion which accompanied the eruption (and indeed preceded it) arthritic in regard to the symptoms which accompanied it, consisting as they did in mere pain and effusion, without diffused redness or heat or tenderness.

K. B——, a healthy-looking girl, aged twelve, presented herself for treatment, suffering from pain in the knee-joint (right). On examining the joint it was found to be swollen, and the patella "rode" freely, whilst there was a small patch of redness over the inner border of the patella. As already mentioned, there was no tenderness, nor was the joint hotter than the other; but, as there was no ground for adopting any other theory than that of a rheumatic cause, the joint was painted with iodine, and iodide and bicarbonate of potass administered internally. When seen the next morning, the patch of redness was found to have developed all the characters of herpes, and similar patches showed themselves all down the thigh in the course of the ilio-inguinal and anterior crural nerves. The knee was less painful, but otherwise there was no change in its condition. Next day the course of the long saphenous nerve, down to the heel, was involved in the eruption, and the fluid in the joint had diminished in amount. The treatment had previously been changed to the local application of collodion, and quinine and iron internally. On the fourth day the joint had regained its normal condition, and the eruption got rapidly well from that time. All possible care was taken to find out the causes which might have produced the effusion into the joint; but the only one which had facts in its favour was that the same irritation which had caused the eruption in the course of all the cutaneous branches of the anterior crural trunk (and must therefore have been considerable in amount) had been able, by its propagation along the branches of the same trunk (the nerves to the vasti internus et externus) which help to supply the knee-joint, to produce an analogous effect on the synovial membrane of that joint, and cause an effusion of fluid, accompanied by a very small amount of inflammatory action, and followed by rapid absorption. Such a condition in herpes zoster is sufficiently unusual to have remained unmentioned, though probably not unnoticed, hitherto; and the whole case may help to throw a light on the somewhat obscure operation of nervous irritation in producing the disorder in question.

Yours &c.,
EDWARD C. BOUSFIELD, L.R.C.P. Lond., &c.
Wandsworth, March 23rd, 1880.

Mr. H. Butler.—The portrait of Mr. Luther Holden, President of the Royal College of Surgeons, which has just been painted by Mr. J. E. Millais, will be exhibited this year in the Royal Academy. The portrait of Sir Wm. Fergusson was presented to the College.

VOTING PAPERS FOR UNIVERSITIES.

To the Editor of THE LANCET.

SIR,—I think attention should be drawn to the wording of the voting-paper for the Universities. In it the magistrate has to certify that the voter signs the paper in his presence and "*is personally known to him.*" It is this clause which I have italicised that I complain of. To-day I visited a resident magistrate for the purpose of swearing in my vote, but he refused to administer an oath to me or certify my signature on the ground that I was not "*personally known*" to him; and as I was not "*personally known*" to any magistrate in London I was prohibited from voting, and had to return the paper as useless.

I see by a morning paper that several persons met with a similar fate to mine at Hammersmith Police Court, and I was informed that others had been so treated at the police-station, Marlborough Street, where I attended.

I would recommend the re-wording of this clause in the voting-paper, for by its operation numbers must have been prevented from using their privilege at the recent elections.

I remain, your obedient servant,
R. VACY ASH, M.B. Aberd.
Naval and Military Club, Piccadilly, W., March 31st, 1880.

*** Instead of returning voting-papers as useless (!), graduates should apply at the offices of the local committee of the candidate they desire to support.—ED. L.

Junius.—It is a "standing order" of the General Medical Council that "the Registrar shall every year, within one month after the meeting of the Council, send to the various Bodies the names of those who have been struck off the Register." On referring to the last published list, the name of the person mentioned does not appear in that list.

Sarniensis.—The article on the subject in "Cassell's Household Guide" is as good as any we are acquainted with.

"CARBOLIC ACID IN TYPHOID FEVER."

To the Editor of THE LANCET.

SIR,—In your number of Feb. 28th there is a case reported under the above heading, the result of which is quite at variance with my own experience.

In the early part of 1872 I treated almost simultaneously four cases of typhoid fever with carbolic acid internally, and regret to say that, as I had anticipated, the duration of the disease was not shortened at all. Since that date I have never had a case of typhoid in which I have not used carbolic acid internally, not, however, with the hope of limiting the duration of the fever, but to arrest decomposition of food.

While on the subject, may I suggest the case quoted by Mr. Weekes to have been one of "febris nervosa" or "abortive typhoid," the identity of which with typhoid I most positively deny; for the more I see of typhoid the more I am certain that, whether it runs a severe or light course, treatment will not shorten the period or render the disease abortive.

Faithfully yours,
Staunton-on-Wye, Hereford, March, 1880. PETER GILES, Jun.

A Fellow.—The statement in the Calendar of the College of Surgeons that the annual elections into the Council, and of President and Vice-Presidents, take place on a *Friday*, is evidently an error. These elections are held on the first and second *Thursday* in July respectively.

Delta should make application to Professor Liveing, Cambridge.

ELECTIONS AT THE COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—May I ask you to insert in your next issue the following statement of facts?

Mr. T. H. Bartleet, a well-known Birmingham surgeon, who has taught Anatomy and Physiology in our school for eighteen years, was nominated, for the recently vacant office of Examiner in Physiology at the Royal College of Surgeons, by Mr. Henry Power, who had special knowledge of Mr. Bartleet's capabilities for the post, and whose judgment on such a matter is, I presume, above cavil. Mr. Bartleet had been nominated on at least one previous occasion. He was prepared to fulfil the duties of the office at any sacrifice. On Thursday last the Council accepted the recommendation of the Examination Committee, and elected Mr. Jeremiah M'Carthy, of St. Mary's Hospital. Mr. M'Carthy is two years Mr. Bartleet's junior as a Fellow, and six years his junior as a Member of the College. There is not, I believe, a single provincial surgeon or representative of a provincial medical school on the Board of Examiners.

Yours faithfully,
Birmingham, March 15th, 1880. JOHN ARCHER, F.R.C.S.

MEDICAL CHARGES.

To the Editor of THE LANCET.

SIR,—As a general practitioner, my account for the attendance, as detailed by "Extra-urban Practitioner," would have been five guineas. I always charge a double fee for the first visit, as it is then time has to be spent in diagnosis, giving directions, &c. I also charge extra (generally double) in special visits, and never less than a guinea for consultation. I also charge double visiting fees in contagious cases. My experience is that half a guinea is just as cheerfully paid for a visit as 7s. 6d.; but (and I think this very important) my patients know that I never pay them an unnecessary visit.—Yours obediently,

ONE WHO WOULD ENTREAT THE PROFESSION
March 29th, 1880. TO RAISE THE STANDARD OF FEES.

Medical Student.—The Registrar of the General Medical Council, 315, Oxford-street, will give all information on the subject.

Dr. Edwin Dobson.—1. Austin Flint, Williams, Douglas Powell.—2. Dickinson.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—Would you oblige me by allowing me to state that, owing to similarity of names, a misunderstanding has arisen in some quarters that I have resigned my appointment as one of the physicians of King's College Hospital; whereas, as you are aware, it is my colleague, Professor Gerald Yeo, who has resigned the office of assistant-surgeon.

Yours truly,
Hertford-street, Mayfair, March 27th, 1880. I. BURNEY YEO.

HORSE FURNITURE, ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—I take advantage of your pages to draw attention to the very ugly horse furniture laid down for A.M.D. officers. The following changes are needed:—Bosses on the bit, bearskin wallet-covers, and departmental gold-lace on saddle-cloth. Nothing can be uglier than the present trappings; they are utterly funereal.—Yours, &c.,
March, 1880. I. V. R. C.

Mr. Johnson.—1. There are 1233 Fellows of the College of Surgeons, including 549 who have received the distinction by examination.—2. Fellows only vote for election into the Council.—3. Mr. Erichsen is the Senior Vice-President.

W. M. E. had better not attach much importance to medical advertisements in the daily press; rather let him consult a duly-qualified practitioner in the case he mentions.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Gowers, London; Mr. Hitchings, Oxford; Mr. Harrison, Liverpool; Mr. Cragie, London; Mr. Davies, Liverpool; Mr. F. Canton, London; Mr. Nixon, London; Major Freeborn, Manningtree; Dr. H. L. Snow, London; Mr. Southam, Manchester; Dr. Maclachlan, Dumbarton; Mr. Hillis, Mahaica; Mr. Manners, Rugeley; Dr. Bulkley, New York; Dr. Cutter, Boston, U.S.; Mr. Maitland; Dr. Godson, London; Mr. R. Lucas, London; Mr. Gray, Ottery St. Mary; Mr. Wrixon, Sarratt; Mr. Orr, Scarborough; Mr. Taylor, Buxton; Mr. Van Abbott; Mr. Mackenzie, London; Messrs. Letts and Son, London; Mr. Shone, Great Marlow; Dr. A. Sheen, Cardiff; Mr. Whitford, London; Mr. Austin, London; Mr. J. Howell, London; Dr. Brookfield, Brondesbury; Mr. Baber, Brighton; Dr. W. J. Smyth, Shipley; Mr. Kemp, London; Dr. Sawyer, Birmingham; Dr. Allanson, Edinburgh; Dr. Roberts, Manchester; Mr. A. E. Barker, London; Dr. Skerritt, Dr. E. M. Nelson, St. Louis; Dr. Steavenson, Ben Rhydding; Mr. G. H. Macnamara, Uxbridge; Mr. Hardman, Blackpool; Mrs. Cookson, Cambs; Messrs. Milner, Lancaster; Mr. Gotelee, Odiham; Messrs. Griffin and Co., London; Messrs. Fannin and Co., Dublin; Mr. Logan, Newcastle; Mr. Wright, Leeds; Mr. Stilliard, Birmingham; Mr. Piet, Baltimore; Mr. Hall, Aberystwith; Mr. Simpson, Pontefract; Messrs. Hennig Brothers; Mr. Jones, Chepstow; Dr. Poole, Sidcup; Mr. Marriott; Mr. Cox; Mr. Dodd, Brighton; Mr. Chadwick, Leeds; Dr. Struthers, Leith; Dr. Eberle, Easingwold; Dr. Hartree, Strantown; Mr. Edgill, Manchester; Mr. Thorpe, Sheffield; Mr. J. Beal, Brighton; Mr. Finlay; Mr. Milne, Aberdeen; Mr. Venman; Mr. Keith; Dr. W. Fairbank; Dr. Tatham, Salford; Mr. Murray, London; Dr. Pedlow; Dr. Markey; Mr. Ash, London; Mr. Walsh; Mr. Croly; Mr. Hargreaves, London; Mr. Yorkshire, Caherciveen; Dr. Brushfield; Mr. Powell, Bromyard; Dr. W. S. Playfair; Surgeon-Major; M.D. Edin.; Candidate; One who would entreat the Profession to Raise the Standard of Fees; Sarniensis; Juvenis; Delta; The Dean of the College of Preceptors; The Manager, Hardwick Mansions; X.; J. M.; Intending Candidate; Æsculapius; M.R.C.S.; I. V. R. C.; J. W. R.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Taylor, Glasgow; Dr. Squire, London; Mr. Newen, Forest-gate; Dr. Keeling, Sheffield; Mr. Stevens, St. Austell; Dr. Fausset; Mr. Parsons, Tamworth; Mr. Girling, Birmingham; Dr. Maxwell, Woolwich; Dr. Alkin, Denton; Mr. Brady, Romford; Mr. Beatton, Tingwall; Mr. Turner, Hingham; Major Searman, Newcastle; Dr. Thomson, Ampthill; Messrs. Harrison and Brass, Newcastle; Messrs. Harvey and Reynolds, Leeds; Mr. Cook, Leeds; Mrs. Harris, Leighton; Mr. Hyde, Buxton; Dr. Kennedy, Dublin; Mr. Brough, West Kensington; Mr. Barlow, Dalston; Mr. Vivian, Southgate; Mr. Wilson, Eastbourne; Mr. Farrar, Bradford; Mr. Sawyer, Bradford; Mr. Astley, Hungerford; Mr. Brend, Bethnal-green; Mr. Silverlock, London; Medicus, Dartford; M. M., Kington; M. M. A.; C. A. B., Salisbury; Hollingbrook; Medicus, Southport; Deltoid, Old Brompton; M. D. M., Worksop; Dispenser, Hyde-park; M.D., Regent's-park; Surgeon; S. T., Sheffield; Medicus, York; Dr. G.; Cymro; April; Alpha; M.D., Hanover-square; S. H.; Assistant, Charlton; Delta, Old Trafford; W. J., York Town; Statem, Bow; &c.

Bristol Mercury, East-End Observer, Lincoln Gazette, Record, Manchester Guardian, Liverpool Daily Post, Surrey Advertiser, Students' Journal, Newcastle Daily Chronicle, Western Morning News, Medical Herald, Gazetta degli Ospitali, Los Avisos, Indian Medical Gazette, Australian Medidal Journal, Gazeta Medica da Bahia, Pharmaceutical Journal, Apotheker Zeitung, Western Lancet, El Medico y Cirurjano Centro-Americano, &c. &c., have been received.

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N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

Agent for the Advertising Department in France—
M. BERTHIER, 104, Boulevard St. Germain, Paris.

Medical Diary for the ensuing Week.

Monday, April 5.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.
ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. C. T. Williams, "On a Case of Gastric Ulcer treated by Nutritive Injection."—Mr. Malcolm Morris, "On the Therapeutical Value of Arsenic in Cutaneous Disease."

Tuesday, April 6.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Huxley, "On Dogs, and the Problems connected with them."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be shown:—Sections of Molluscum Contagiosum; Sections and Photographs of Elephantiasis; Horny Growth from Eyelids; Melanosis of Finger; Congenital Syphilitic Disease of Larynx; Section of Spinal Cord from a Case of Tetanus after Ovariotomy; Multiple Ivory-patch Morphœa in process of rapid Recovery (living specimen); Skin Disease, probably Lichen Ruber (living specimen); Recent Division of the Tendo Achillis; Ramifying Cyst in the Brain; Calcareous Tumour loose in Abdominal Cavity; Aneurism by Anastomosis of the Ear; Laryngeal Perichondritis in Typhoid Fever and in Small-pox; Elongation of Limb in connexion with Knee-joint Disease; Aortic, Mitral, and Tricuspid Constriction; &c.

Wednesday, April 7.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
HUNTERIAN SOCIETY.—7½ P.M. Council Meeting.—8 P.M. Mr. Jacobson will show a Case of Gastrostomy.—Dr. Fletcher Beach, "On Types of Imbecility."
EPIDEMIOLOGICAL SOCIETY.—8 P.M. Dr. G. B. Longstaff, "On some Statistical Indications of a Relationship between Scarlatina, Puerperal Fever, Erysipelas, and certain other Diseases."
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Drs. Galabin, Bantock, Godson, Murphy, and Roper.—Papers: Dr. Godson: "Removal of Fibroid Out-growth from Fundus Uteri; Recovery."—Mr. Knowsley Thornton: "Removal of Uterine Fibroids by Laparotomy."—Dr. John Williams, "On some Periodical Changes which occur in Fibroid Tumours of the Uterus, and their Significance."

Thursday, April 8.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Professor Tyndall, "On Light as a Mode of Motion."

Friday, April 9.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—7 P.M. Conversation and Exhibition of Objects.
ROYAL INSTITUTION.—3 P.M. Evening Meeting.—9 P.M. Professor Huxley: "Coming of Age of the Origin of Species."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. Nettleship, "On two Cases of Sympathetic Ophthalmitis, setting in three weeks after Excision of the other Eye."—Mr. Marsh, "On some Cases of Bone-setting, with Remarks."—Mr. Barwell, "On Section of the Femur above the Small Trochanter for Angular Anchylosis of the Hip."—Mr. Clutton, "On a Case of acquired Hypertrophy of one Limb."—Dr. Stephen Mackenzie will exhibit a Case of Elephantiasis treated by Elastic Bandages.

Saturday, April 10.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. James Sully, "On Art and Vision."

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